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ABSTRACT

These two manuals provide instructors and participants with a curriculum to train paraeducators to provide supportive services to students with severe disabilities in inclusive classroom settings. The course requires approximately 12 hours of instruction and 10 hours of practicum and can be offered in a variety of formats (intensively or over a number of weeks) and does not require outside trainers. The instructor's manual contains introductory material, suggestions for using the manual, and four units of instruction. Each unit contains an instructor's overview (with a brief description, unit objectives, and lists of resources and materials), an agenda, a lesson plan, a review quiz and key, and overhead masters. For each unit, the participant's manual provides a participant's overview, required readings (full text), activity sheets, the review quiz, a cooperating teacher practicum summary, and a unit evaluation form. The curriculum's four units address the following topics: (1) principles and assumptions; (2) augmentative and alternative communication; (3) health and safety; and (4) personal care. Attachments include a list of practicum requirements and sample forms, including a participant registration form, a list of practicum requirements, a cooperating teacher responsibility form, instructor evaluation forms, and a certificate of completion. (Individual sections contain references.) (DB)

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Supporting Students with Severe Disabilities
A Paraeducator Curriculum
Field Test Version 2.0
Instructor's Manual [and] Participant's Manual

Timothy Fox

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Supporting Students with Severe Disabilities

— A Paraeducator Curriculum —

Instructor's Manual

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Field Test Version 2.0 June 2002 Feedback is requested

EC 309356

For updated course information and ideas, check:

www.uvm.edu/~cdci/paraprep

(look under "Summaries of Project's Training Materials")

All readings included in the companion *Participant's Manual* for this course, *Supporting Students with Severe Disabilities: A Paraeducator Curriculum,* have been reprinted with the written permission of the copyright holder.

IDEAs that Work
U.S. Office of Special
Education Programs

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Supporting Students with Severe Disabilities: A Paraeducator Curriculum

Instructor's Manual

Note: All course readings are in a separate Participant's Manual.

Timothy Fox

Center on Disability and Community Inclusion
The University Center for Excellence in Developmental
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Table of Contents

- Introduction 1
- Make It Your Own 7
- How to Use This Instructor's Manual 8
- Unit 1: Principles and Assumptions 16

    Instructor's Overview 17
    Agenda 20
    Lesson Plan 21
    Knowledge Review 36
    Knowledge Review Key 39
    Overhead Masters 40

Unit 2: Augmentative and Alternative Communication 57

    Instructor's Overview 58
    Agenda 62
    Lesson Plan 63
    Knowledge Review 81
    Knowledge Review Key 84
    Overhead Masters 85

- Unit 3: Health and Safety 103

  Instructor's Overview 104
  Agenda 107
  Lesson Plan 108
  Knowledge Review 125
  Knowledge Review Key 128
  Overhead Masters 129

- Unit 4: Personal Care 142

  Instructor's Overview 143
  Agenda 146
  Lesson Plan 147
  Knowledge Review 161
  Knowledge Review Key 164
  Overhead Masters 165

- Forms 175

  Participant Registration Form 176
  Cooperating Teacher Responsibility Form 178
  Practicum Requirements 179
  Participant Course Information 193
  Instructor Evaluation Forms 194
  Certificate of Completion 202

Introduction

Overall Purpose of this Training Curriculum

Students with severe disabilities were afforded the right to a free, appropriate public education in 1975 through the passage of Public Law 94-142. In the mid-1980s, children and youth with severe disabilities began gaining access to regular education classes in their neighborhood schools. This curriculum was developed with the recognition that paraeducators interact with students with severe disabilities in a variety of educational and community settings. Yet, due to the diverse nature of students with severe disabilities, paraeducators often find themselves ill prepared to interact with students who may be non-verbal, have severe hearing, visual, motor and medical challenges as well as learning and/or behavioral challenges.

Students with severe disabilities are those students whose disabilities are so severe that they will require ongoing, extensive support in more than one major life activity in order to participate in integrated community settings and enjoy the quality of life available to people with fewer or no disabilities.

The *Individuals with Disabilities Education Act Amendments of 1997* [(IDEA), 20 U.S.C. 1400 et seq.] require that state education agencies "establish and maintain standards" to ensure that paraprofessionals "used to assist in the provision of special education and related services to children with disabilities are appropriately and adequately prepared, trained, and supervised in accordance with State law, regulations, or written policy" [20 U.S.C. 1412 § 612(15)]. In other words, IDEA requires states to ensure that "qualified personnel" are available to assist in educating students who have disabilities; this includes paraprofessional staff. IDEA also requires local educational agencies (LEAs) to ensure that all personnel working with students with disabilities are "appropriately and adequately prepared" [20 U.S.C. 1412 § 613 (a) (3)].

In an effort to address certain aspects of this requirement, this curriculum provides training content, formats, and a framework to ensure that paraprofessionals (referred to here as paraeducators) have the basic knowledge and skills necessary to contribute to the education of students with severe disabilities in *inclusive* educational settings. Paraeducators have important input into the process and are often responsible for modeling and reinforcing new skills, implementing communication, motor and sensory strategies, and managing the students physical and social needs. In this context, the paraeducator is a team member who functions under the direction of qualified teachers or special educators. The professional staff is responsible for decision-making and planning to insure that the student's needs are being met.

The primary focus of this curriculum is to impart general information about students with severe disabilities. Topics include general principles and assumptions concerning the education of students with severe disabilities and general issues in the areas of communication, personal care and health/safety. This curriculum does not attempt to include every conceivable thing a paraeducator or supervisor might need to know about students with severe disabilities in order to be effective. Any such training program should be considered as one part of a more comprehensive plan to recruit, hire, orient, train, and supervise paraeducators on an ongoing basis.

This course is designed to be taken after successful completion of the prerequisite entry-level training course *Paraeducator Entry-Level Training for Supporting Students with Disabilities*. Effective approaches to educating students with severe disabilities are grounded in a framework of collaboration among professionals, support staff, students, and family members; the development of informal supports; family and cultural sensitivity; and the roles of paraeducators and other qualified professionals.

Philosophical Foundation

This curriculum emphasizes the unique nature of the paraeducator "assisting" in implementing instruction and support strategies designed by teachers, special educators and related service providers. We believe that assessment, curricular design and adaptation, and primary instruction are roles of certified educators, special educators, and related service personnel. Therefore, an important philosophical tenet is that we do not expect a paraeducator to be "the exclusive or primary teacher" for students with severe disabilities. Students with severe disabilities deserve to be educated by certified, qualified teachers in their neighborhood schools, just like students without disabilities. At the same time we recognize that paraeducators play a vital support role with these students — their work should be recognized and appreciated.

In addition, we have come to recognize the wide array of roles and responsibilities that paraeducators are being asked to fulfill and question whether they can continue to be expected to meet this ever expanding set of increasingly complex demands without adequate training, support, or compensation. At times paraeducators are unfairly expected to do the work of a teacher — in such cases we consider whether training is really the answer or whether other models of service delivery (e.g., hiring more qualified teachers; differentiated teacher roles) may be more appropriate. Third, we have been guided by the principles presented in the article, *Developing a Shared Understanding: Paraeducator Supports for Students with Disabilities in General Education* (Giangreco et al., 1999).

Intended Audience

This curriculum is intended for use by paraeducators who work with students with severe disabilities. It is meant to address the initial information/training needs of paraeducators and their cooperating teachers working with students across the age span and is generically applicable for those working with students who have various types of severe disabilities. The curriculum is primarily geared toward use in general education schools and classrooms, although the content is also applicable to community or employment settings where people with disabilities are included with people who do not have disabilities. The required readings and varied formats contribute to its potential use in urban, suburban, rural, and remote areas. But, like any training program, it should be tailored to meet local conditions. Because this program is designed for national dissemination, specific state or local regulations, policies, and procedures are not included. The instructor or sponsoring agency should try to supplement the program with any necessary information specific to local situations.

Formats of Training

The needs of school districts to train paraeducators vary. Therefore, training formats must be flexible. The content in this curriculum is designed to be offered in different formats to meet differing needs. Each format includes a mechanism for evaluation and a practicum component. Each can also be adapted to be offered for continuing education or university credit. The traditional course format and formats relying on technology are discussed below .

Course Format

The traditional course format provides required readings and materials for a trainer, face-to-face sessions with participants, written materials and traditional methods of interaction (e.g., group discussions, presentations, group and individual activities). This format can be provided in various ways. It can be delivered regionally or within a single district or school. It can be delivered in an intensive (e.g., full-week) format or spread over a number of weeks. The program is not dependent on outside trainers and is appropriate for use by qualified school personnel (e.g., special educators; staff development specialists).

Though we have designed all our courses to be completed with 12 to 18 hours of instruction and 10-12 hours of practicum, you may decide to extend these times to offer additional depth to the experience. This may provide additional time to involve guest instructors in your class, such as parents who have children with disabilities, self-advocates, or professionals who have special expertise related to the unit of study. This option can be offered to groups ranging from 5 to 25 participants by local school personnel. Depending on the delivery format selected, local trainers may be asked to do this training within the context of their existing job responsibilities or may be compensated for additional time spent beyond their contracted duties.

Formats Relying on Technology

Project staff are exploring the use of technology (e.g. interactive video, internet courses, and CD-ROM) as an option for offering courses to paraeducators, teachers and special educators who lack access to traditional courses because of issues such as scheduling conflicts or transportation barriers. As information becomes available about these options it will be posted on our web site. Our web site is: **http://www. uvm.edu/~cdci/paraprep/**

Basis for the Course

A number of foundational sources informed the development of this curriculum. They include:

- a review and summary of existing paraeducator curricula;
- a review of published paraeducator literature from 1990 to 2001 (both data based and non-data based);
- a review of paraeducator/paraprofessional Dissertation Abstracts from 1992 to 1999;
- a national survey of perceived training needs and priorities for paraeducators and their mentors completed by a variety of stakeholder groups (e.g., parents, paraeducators, special educators, classroom teachers, related services providers, state education staff, school administrators);
- in-depth data (e.g., questionnaires, interviews, document reviews, observations) generated from a model demonstration project that examined paraeducators issues in inclusive settings in Vermont.

Course Content and Organization

This mini-course is a part of a series of courses for training paraeducators. Mini-courses follow a six-unit course entitled *Paraeducator Entry-Level Training for Supporting Students with Disabilities*. This course consists of the following four units of study, each designed to be completed in a 3-hour class for a total of 12 classroom hours.

Unit 1	Principles and Assumptions
Unit 2	Augmentative and Alternative Communication
Unit 3	Health and Safety
Unit 4	Personal Care

Practicum Requirements

Ten hours of practicum activities are included in the mini-course and are appropriate for implementation within a general education setting. The practicum requires that paraeducators conduct these activities under the direction of an educator willing to support the participant and provide feedback on the activities. Practicum activities and evaluation forms are provided as a part of the training package. Participants also have the option of negotiating alternative practicum requirements with their cooperating teacher.

Other Content Training for Paraeducators

There are two other mini-courses within this series. Each consists of 12 hours of classroom instruction and 10 hours of practicum.

Mini-Course 1	Paraeducator Entry-Level Training
Mini-Course 2	Supporting Students with Challenging Behavior: A Paraeducator Curriculum

Check our web site: http//www.uvm.edu/~cdci/paraprep/ for information on the status of these courses and for links to courses offered on-line by other organizations disseminating training materials.

Limitations of this Training Series

Our experience tells us that when people hear about a new training program for paraeducators, they become very interested because the need is obvious and extensive. While this and other training programs can certainly assist schools in developing a more qualified work force, they are not like magic wands that once passed over them will transform untrained assistants into highly competent teachers. In fact, this curriculum intentionally is not designed to prepare paraeducators to become teachers, nor is it geared to teach paraeducators how to engage in planning that is the responsibility of certified educators. Likewise, it is not intended to substitute for an individual district's ongoing orientation, on-the-job training, and supervision of paraeducators. It is merely one piece of the paraeducator training puzzle.

No training program will solve all the problems related to service delivery, instruction, classroom management, and other important issues affecting student learning. This training program, like many programs, is brief and therefore focuses on the most essential learning outcomes needed by paraeducators. However, it does not replace the need for local training in specific skills required in specific settings (e.g., in a specific reading or mathematics program; information that is uniquely associated with individual students). In addition, it does not substitute for the daily and ongoing on-the-job support and mentoring that can only be provided by the local school personnel.

Additional Training Resources

If you want to go further into depth, supplemental resources are listed at the end of each unit. These include references for books and articles, videos, and web addresses of interest. Other training resources and updated course activities are also listed at this project's web site at:

- **http://www.uvm.edu/~cdci/paraprep/**

Or, you may visit our companion web site at:

- **http://www.uvm.edu/~cdci/parasupport/**

References

Individuals with Disabilities Education Act Amendments of 1997. Pub. L. No. 105-17, Section 20, 111 Stat. 37 (1997).

Giangreco, M.F., CichoskiKelly E., Backus, L., Edelman, S., Broer, S., Tucker, P., CichoskiKelly, C., & Spinney, P. (March 1999). Developing a shared understanding: Paraeducator supports for students with disabilities in general education. *TASH Newsletter, 25* (1), 21-23.

Make It Your Own!

In offering these training materials for your use, we have provided a level of detail so that you can have all that is necessary to offer a basic course (e.g., agendas with timelines, readings, activities, overhead masters, and lists of supplemental resources). At the same time, we recognize that some of you may be experienced instructors who may not need the level of detail we have provided. In such situations we encourage you to make adjustments that make sense to you.

Bringing
chocolate
to the
first class
can't hurt!

We strongly encourage you to bring your own style of teaching to this course. Feel free to modify or substitute activities to match the objectives. Feel free to add readings that would improve the content. Insert your favorite stories, cartoons, or other training materials. Bringing chocolate to the first class can't hurt!

If your experience is anything like ours, you'll find yourself adding your own personal touches and making various adjustments in preparation for class and during class. Often the adjustments you make will depend on the number of participants and the dynamics of the group. For example, sometimes you may decide that activities designed to be done in small groups should be done in large groups. Sometimes the length of time you devote to an activity may be shortened or extended. You will find yourself assisting participants in making connections between the course content and what you are learning about their schools and classrooms. This likely will lead to discussion of important topics that are beyond the scope of a unit's objectives. Hopefully, this will help make the course more relevant and dynamic.

The main point is to take the framework offered in these materials and make it your own!

Good luck!

How to Use this Instructor's Manual

This manual includes all of the information an instructor needs to offer, prepare, deliver, and evaluate the mini-course *Supporting Students with Severe Disabilities: A Paraeducator Curriculum.* The first step recommended to the instructor is to become familiar with the manual. This section is designed to facilitate that process. It provides information in chronological order; certain items may not be applicable to all instructors.

How to Offer the Training

1. **Decide whether there is a need to offer the course:**
   Need can be determined by the school administration for individual schools or by state and local agency personnel or by college and university departments. Need can be determined by reviewing state training needs (e.g., State Department Comprehensive System of Personnel Development data, data collected by state paraeducator advocacy organizations) and/or local training needs (observations or surveys conducted by school districts to identify paraeducator training needs).

2. **Decide on the format for offering the course:**
   - The next consideration is for school administration or local and state agencies or college and university personnel to determine (based on identified needs) whether the course will be available to participants through "open enrollment" or "in-house."
   - Open enrollment courses may be delivered by school districts (that are open to paraeducators from other schools), colleges and universities, or agencies (e.g., State Department of Education) that are interested in offering a training which is open to the public.
   - In-house courses will generally be offered by a school district that is interested in training its paraeducator staff.

3. **Identify the instructor:**
   - The course was designed so that a *novice instructor*, though one knowledgable about supporting students with severe disabilities, could deliver the course. The course can also be taught by instructors who are beyond the novice level.
   - The instructor should be familiar with the work of paraeducators and may be a professional such as a classroom teacher, special educator, administrator, consultant, or Department of Education staff. Paraeducators, parents, or others (who have completed entry-level paraeducator training) may serve as co-instructors. People with disabilities and parents of students with

disabilities may serve as guest instructors who can talk about their own experiences with paraeducators.

- For those courses that are offered in-house, an instructor who works in that setting would be ideal for providing on-site support to paraeducators and their cooperating teachers. If the instructor is not a member of the school staff, he/she should become familiar with the school setting and any in-house paraeducator policies.
- Once the instructor has been identified, he/she should be given the Instructor's Manual and the Participant's Manual for the course.

4. **Decide if the course should be offered for credit:**
   - The course has been designed to be offered as noncredit with a certificate of completion awarded to participants who complete course requirements. Consideration will need to be given to whether participants will need to pay tuition if there is a cost for the instructor or other fees (e.g., materials, classroom space). In some cases, the instructor may be a member of the school district who teaches the course as part of his/her job responsibilities. In other cases, schools may pay in-house instructors for work beyond their contracted duties. In such cases, the course may be offered to participants at no cost.
   - Arrangements can be made with local colleges and universities to offer the course for credit (the course is designed as a one-credit course). Courses offered for credit may also require participants to pay tuition. In such cases, arrangements must be made with the college or university to determine tuition rates.

5. **Schedule the course. The schedule for the course will depend on several factors, including:**
   - the instructor's availability and schedule (you may wish to ask the instruc tor about best training dates, times, and locations);
   - the availability of participants (you may wish to survey potential participants for best training dates, times, and locations);
   - the availability of training sites (a central location is recommended for in-house courses; however, location may be determined by the college or university for open-enrollment courses);
   - paraeducator considerations for in-house courses (to acknowledge the role of the paraeducator, the school may offer the course during the school day,. schools may offer paraeducators stipends or compensation for their time beyond scheduled work hours to attend the course); and
   - the schedule should include confirmed dates, times, and locations for all course classes.

6. **Advertise the course:**
   - Once the schedule has been determined, the course should be advertised to the prospective participants.
   - The advertisement should contain information regarding the course schedule, course content, and practicum requirements, as well as information about how to register and where registration forms can be obtained.
   - The advertisement may be a brochure, flier or e-mail message.
   - In-house: Distribute the advertisement to school principals, special education coordinators, special educators, classroom teachers, and paraeducators.
   - Open-enrollment: Distribute the advertisement to teacher organizations, paraeducator organizations, disability groups, special education coordinators, paraeducators, parent-teacher organizations, local newspapers, and others.
   - Arrangements should also be made to advertise in college and university course catalogues and bulletins if the course is offered for credit.

7. **Register participants:**
   - Copy and distribute registration forms (found in the *Forms* section of the Instructor's Manual) to participants. These include the *Participant Registration Form*, which includes the *Cooperating Teacher Statement of Commitment*, and the *Cooperating Teacher Responsibility Form*. Forms have blanks to be filled in so that the instructor can individualize them.
   - Participants complete the registration forms for the course and submit them to the instructor.
   - Upon receipt, review the registration information for any special testing or instructional accommodations and keep forms in a confidential place.
   - Once participants registration forms are received, send each participant a Participant Course Information sheet, which lists all pertinent information such as schedule of class dates, times, and locations and the address to order the **Participant's Manual** from the National Clearinghouse of Rehabilitation Training Materials (NCRTM) at:

     NCRTM
     Oklahoma State University
     5202 Richmond Hill Drive
     Stillwater, OK 74078-4080
     800-223-5219
     405-624-7650
     Fax: 405-624-0695

     Order number: 650.051B

- For courses offered in-house, school districts may wish to pre-order participant materials.
- For courses offered at colleges and universities, bulk orders may be made through the college bookstore.

Student Registration Process

Instructor | **Participant**

Advertise course

→

Participant requests registration form

↙

Registration materials, including the Participant Registration Form, Cooperating Teacher Responsibility Form, and Practicum Requirements, are supplied to participant.

→

Participant fills out registration and returns it to instructor or designated person.

↙

When the participant's registration is received, *Participant Course Information* sheet is sent to participant.

→

Participant receives *Participant Course Information* sheet and follows instructions to obtain the *Participant Manual* (Unit 1 readings should be read prior to the first class.)

↙

Class begins!

Note: Additional course registration procedures may be required if the course is offered for college credit.

How to Use the Instructional Units

The curriculum is divided into four instructional units, and each unit contains:

- an overview
- an agenda
- a lesson plan
- a *Knowledge Review* and key
- overhead masters

1. **How to use the overviews:**
   The overviews should be used to help the instructor prepare for the instruction of a specific unit by outlining:
   - a brief description of the unit
   - the number of hours needed
   - the unit objectives, identified as knowledge (K) or skill (S) objectives
   - materials needed
   - instructor preparation (e.g., prepare materials and overhead masters)
   - participant preparation needed (e.g., read required readings)
   - instructor implementation
   - practicum requirements
   - evaluation of participant learning
   - suggested supplemental resources (the suggested supplemental resources extend beyond the scope of the unit. They are provided for participants who wish to have more information than what is provided in the required readings.)
   - if the course has been offered for credit, additional criteria such as course evaluations may need to be considered.

2. **How to use the agendas:**
   - The agendas are included in the Instructor's Manual only.
   - The agendas should be used to organize and plan time requirements for delivery of unit content and activities.
   - The agenda should be kept on hand during class as a reminder of the schedule.
   - The agendas may be copied prior to class and distributed to participants at the beginning of each class as an organizer.

3. **How to use the lesson plans:**
   - The Instructor's Manual (only) includes lessons for each unit.

- The lessons are guides for the class and should be reviewed prior to each class.
- The lesson plan and sequence are cross-referenced to the agenda for each unit (each agenda item is noted with a stylized letter **A**).
- Lessons contain various icons that should be used to help the instructor visually recognize different parts of the lesson. The icons represent the following:

☞ **Note to the Instructor:** Signals the instructor that there are special directions that should be reviewed prior to class and used during class as a reminder.

Activity: Signals the instructor to begin a class activity.

📖 **Refer to Participant's Manual**: Signals the instructor to refer the participants to materials in their Participant's Manual (e.g., required readings).

Show Overhead: Signals the instructor to show an overhead during the class.

Break: Signals the instructor to have a class break.

?Q&A **Discussion Questions**: Signals the instructor to begin a class discussion.

📣 **Read Aloud**: Signals the instructor to read the information to the class.

👓 *Knowledge Review:* Signals the instructor to give participants the *Knowledge Review*.

- The lessons are designed to be taught according to the sequence presented.
- Lessons include review of the required readings through specific activities and discussion questions (**the required readings are contained in the Participant's Manual only**).
- The instructor may wish to substitute or supplement selected required readings with more contemporary or appropriate readings that reflect unit objec-

tives. The readings can be individualized as needed.

- The "activity sheets" referred to in the lesson plan are located in the corresponding units in the Participant's Manual.
- The Participant's Manual contains some required readings that are not covered in class.
- The instructor may supplement or substitute activities or discussion questions that you feel are appropriate.
- Time frames for each activity and discussion are given in the lesson as well as on the agenda.
- Class time should be monitored to ensure that all planned activities will be completed.
- A participant who misses a class must meet with the instructor to be given work that will take the place of in-class activities missed that reflects mastery of unit knowledge objectives. The *Certificate of Completion* can be issued only to participants who complete the curriculum requirements, which include completion of all in-class activities.
- All participants should be made aware that attendance in class is a requirement for obtaining a *Certificate of Completion,* and that any participant who misses a class must arrange to meet with the instructor to schedule make-up assignments.

4. **How to use the Participant's Manual in class:**
   - The instructor will need both the Instructor's Manual and the Participant's Manual for class.
   - The instructor should become familiar with the Participant's Manual which is divided into four units and contains the required readings for each unit, activity sheets needed to complete in-class activities, *Knowledge Reviews,* and Unit Evaluation Forms.
   - Prior to each class, copy the *Knowledge Review* and Unit Evaluation Forms to distribute and collect from participants.
   - Bring a Participant's Manual to each class and remind participants to do the same.

5. **How to use Unit and Instructor Evaluation forms:**
   - Gather all evaluation forms and review them for suggestions that may lead to revisions of future course offerings.
   - Complete your own Instructor Evaluation Form when you are teaching each unit. Use these to modify each unit as needed.

6. **How to use the practicum requirement checklists:**
   - Review the practicum requirements for each unit at the **end of each class** for

that unit and ensure that all participants understand the requirements.

- Encourage participants to complete the practicum requirements in a time frame that fits their work schedule; however, *all* practicum requirements must be completed in the time frame negotiated by the instructor and the class.
- Because some participants may otherwise not begin the practicum requirement until after the course ends, they may work with their cooperating teachers on a plan for completion.
- Participants who feel that certain practicum requirements are not appropriate for their school site may negotiate a more suitable requirement with their cooperating teachers.
- To negotiate a new requirement, the participant must also receive written approval from the class instructor. This may be accomplished by submitting a negotiated requirement in writing and receiving written approval from the cooperating teacher and the instructor.
- The cooperating teacher should initial each skill that has been "checked" as completed and sign the practicum requirements sheet.
- Participants are responsible for turning in the completed practicum checklists to the instructor at the end of class within the time frame established by the instructor.

7. **How to issue the Certificate of Completion:**
   - When a participant has completed the course work and the practicum requirements, the instructor may issue the participant a *Certificate of Completion* (located in the *Forms* section at the end of the Instructor's Manual).
   - Completion of course work means attending all classes, participating in class activities, completing the *Knowledge Review* for each unit, and completing all practicum requirements.
   - The instructor may issue *Certificates of Completion* to participants by mail if they complete the practicum requirements after the classes have been completed.

Unit 1:

Principles and Assumptions

Timothy J. Fox

Instructor's Overview

Unit 1: Principles and Assumptions

Brief Description of Unit

This unit provides an overview of the common characteristics of students with severe disabilities and the principles and assumptions that affect their learning. It provides information and activities to help paraeducators to assist in creating a learning environment in which students are treated with sensitivity and respect and in which all students are supported to reach their potential.

Hours of Instruction (in class format)

3 hours

Unit Objectives

Key: K = Knowledge, S = Skill (Knowledge objectives are addressed through reading and class activities; skill objectives are addressed through practicum activities)

1. Paraeducators will know about common characteristics (e.g., intellectual, physical, sensory, behavioral) of students with severe disabilities. (K)

2. Paraeducators will know about a series of principles and assumptions that affect the learning and inclusion of students with severe disabilities. (K)

3. Paraeducators will demonstrate their knowledge of principles and assumptions that positively affect the learning and inclusion of students with severe disabilities. (S)

Preparing for and Implementing the Unit

Required Readings (located only in the Participant's manual)

Fox, T. (2001). *Historical perspectives and guiding principles for the education of students with severe disabilities.* Unpublished manuscript. Burlington, VT: Center on Disability and Community Inclusion, University of Vermont.

Fox, T. (2001). *Characteristics of students with severe disabilities and educational implications.* Unpublished manuscript. Burlington, VT: Center on Disability and Community Inclusion, University of Vermont.

Fox, T. & Williams, W. (1998). *Best practice guidelines for meeting the needs of all students in local schools.* Unpublished manuscript. Burlington, VT: Center on Disability and Community Inclusion, University of Vermont.

Instructor materials:
- overhead projector and screen
- Unit 1 overheads (must be copied onto transparencies)
- flip charts and markers
- masking tape
- nametags
- ear plugs and blindfolds for each class member
- *Knowledge Review* (Unit 1) enough copies for all participants in the class

Instructor Preparation for the Unit:
- Obtain a list of students registered for the class.
- Read the required readings prior to class (located only in the Participant's Manual).
- Gather all instructor materials.
- Consider the physical arrangement of the classroom to facilitate class activities.
- Review Practicum Requirements for Unit 1.

Participant Preparation for the Unit:
- Read the required readings **prior to class**
- Write two questions based on required readings for discussion in class that are relevant to you and your situation.
- Bring writing materials for note taking and activities to class.
- Review Practicum Requirements for Unit 1.
- Bring your Participant's Manual to class.

Instructor Implementation of the Unit:
The unit includes an agenda with timelines, a lesson plan, required readings, a *Knowledge Review,* and practicum requirements to be completed in the educational setting. The agenda is located at the beginning of each unit. The activities are interspersed within the lesson plan. The *Knowledge Review* is located at the end of each unit.

Practicum Requirements

This unit has one required practicum activity which is designed to be completed at the end of the course. The paraeducator and cooperating teacher will collaborate to complete that activity. A practicum checklist of the activity to be completed and skills to be observed is found at the end of the manual. In the event that a practicum requirement is not appropriate for a paraeducator's specific situation, an alternate activity may be substituted based on negotiation with the cooperating teacher. The negotiated requirement must be approved by the course instructor.

Evaluation of Participant Learning

Participants are evaluated in three ways: (1) *Knowledge Review* quiz, (2) attendance and participation in class activities, and (3) completion of practicum requirements. In order to facilitate learning of required readings, participants will take the *Knowledge Review* quiz at the end of each class session and will receive immediate feedback in class. Participants are encouraged to review questions before class so they can be aware of them during class. This can improve a participant's success on the quizzes .

Suggested Supplemental Resources

Books and Articles:

Lehr D. & Brown, F. (1996). *People with disabilities who challenge the system*. Baltimore: Paul H. Brookes.

Snell, M. E. & Brown, F. (2000). *Instruction of students with severe disabilities*. (5th ed.) New Jersey: Prentice Hall.

Taylor, S & Blatt, S. (1999). *In search of the promised land. The collected papers of Burton Blatt*. Washington, DC: American Association on Mental Retardation.

Web Sites:

Inclusion Press
www.inclusion.com

The Association for Persons with Severe Disabilities
www.tash.org

Inclusive Education for Disabled Students
www.normemma.com

Twenty Second Annual Report to Congress
www.ed.gov/offices/OSERS/OSEP/OSEP2000AnlRpt

Videos:

HBO Project Knowledge (1993). *Educating Peter*. New York, NY: Home Box Office.

Agenda

Unit 1: Principles and Assumptions (3 hours)

	Agenda Item	Time
A1	Introduction	15 min.
	Greeting Activity (10 min.) Confidentiality Activity (5 min.)	
A2	Characteristics of Students with Severe Disabilities	50 min.
	Introduce Objective 1 (2 min.) Define Severe Disabilities (3 min.) Student Description Activity (15 min.) Who Do We Work With? (5 min.) Trust Walk Activity (25 min.)	
A3	Principles and Assumptions	35 min.
	Introduce Objective 2 (2 min.) Introduce Activity (3 Min.) Assumptions Activity (30 min.)	
A4	BREAK	15 min.
A5	Continue Assumptions Activity	35 mins.
A6	*Knowledge Review*	20 min.
A7	Evaluation, Practicum and Preparation for the Next Class	10 min.

A1 INTRODUCTION (15 min.)

Greeting Activity (10 min.)

1. Introduce yourself (giving your name and your role as instructor).
2. Introduce the activity and its purpose: to help participants to get to know one another. This is an important aspect of collaboration.
3. Give directions for the greeting activity.

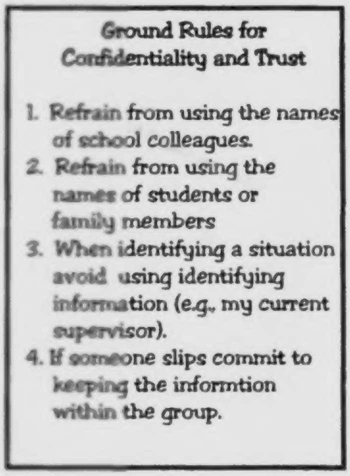
Greeting procedure:
- Give each participant a name tag and ask participants to write their first name, large, in the middle, and their last name smaller under the first name.
- Ask everyone to stand and form a large circle.
- Tell the participants that during introductions they should say their name, the school they work at and make up a movement to go with their name (e.g., bow at the waist, clap hands, twirl around, stand on one leg). The movement should represent a favorite hobby. Ask each person to keep their hobby a secret at this point.
- Model the greeting procedure by reintroducing yourself mentioning your name, school, and demonstrating your movement.
- The group then says "Hi, *name* " and does the movement. The second person in the circle then says his name, school and movement. The group says "Hi, second person" and does the movement, then says "Hi, first person" and does her movement.
- Continue the pattern until all persons have been introduced (1st; then 2nd, 1st; then 3rd, 2nd, 1st; then 4th, 3rd, 2nd, 1st; etc.).
- When all persons have been introduced, go around the room and ask the group to guess each person's hobby.

Confidentiality Activity (5 min.)

Note to the Instructor

To establish trust among participants to share openly, it is important to maintain the confidentiality of our paraeducator, teacher, and special education colleagues.

Show Overhead (OH 1-1)



Ground Rules for Confidentiality and Trust

1. Refrain from using the names of school colleagues.
2. Refrain from using the names of students or family members
3. When identifying a situation avoid using identifying information (e.g., my current supervisor).
4. If someone slips commit to keeping the informtion within the group.

OH 1-1

Read Aloud

Throughout this class the success of the experience will be dependent, in part, upon open and honest sharing of ideas among group members. Therefore, it is vital that we establish some ground rules for confidentiality that will help members feel comfortable sharing. Let's review these initial ground rules (on the overhead) as a group and then decide if we need to modify or add to them, so that people are comfortable sharing while maintaining confidentiality.

Note to the Instructor

Review overhead points and reach group agreement about confidentiality norms. Encourage people to talk about their experiences in hypothetical terms (even though they may not be hypothetical).

A2 CHARACTERISTICS OF STUDENTS WITH SEVERE DISABILITIES (50 min.)

Show Overhead (OH 1-2)

> **Objective 1:**
>
> Paraeducators will know about common characteristics of students with severe disabilities.

OH 1-2

Read Aloud

Objective 1: Paraeducators will know about common characteristics (e.g., intellectual, physical, sensory, behavioral) of students with severe disabilities.

Show Overhead (OH 1-3)

> Students with severe disabilities are those students whose disabilities are so severe that they require ongoing, extensive support in more than one major life activity in order to participate in integrated community settings and pursue the quality of life available to people with fewer or no disabilities.

OH 1-3

Read Aloud

Students with severe disabilities are those students whose disabilities are so severe that they require ongoing, extensive support in more than one major life activity in order to participate in integrated community settings and pursue the quality of life available to people with fewer or no disabilities.

Show Overhead (OH 1-4)

Examples

A student with severe cerebral palsy who will need lifelong assistance with self-care activities (dressing, eating, toileting) and mobility.

A student who is non-verbal and blind will need assistance holding a job, shopping and with the management of her finances.

OH 1-4

Read Aloud

There is not a test or even an exact definition of "severe disabilities" to guide us in deciding if a given student should be considered as "severely disabled." Some teachers would consider a student who is 2 grades behind in reading as severely disabled while others would not. To help us to agree on the definition, we must look for the need for long-term support in more than one major life area. Let's go over a few examples and see if we can agree upon a general definition. Read examples on overhead 1-4.

Student Description Activity (15 min.)

Refer to the Participant's Manual

Required readings Unit 1, Activity Sheet #1

1. Direct participants to refer to the "Student Description" activity sheet #1 located in their Participant's Manual.
2. Read the activity directions to the class. Ask if anyone has any questions. Begin the activity by reading the first student description to the class.

Participant Directions

1. The instructor reads the first student description aloud to the class.

2. Each participant decides if the student should be considered severely disabled and marks their worksheet "yes" or "no."

3. Each participant indicates in the column titled "Why?" their reasons for deciding that the student should or should not be considered severely disabled.

4. The instructor asks for a show of hands for those who think the students should be considered severely disabled and for those who think the student should not be considered severely disabled. The instructor writes the tally of "yes" and "no" responses on the overhead.

5. If there is agreement, the instructor reads the next description and repeats steps 2–5. If there is not agreement the instructor asks a few people to share their "Why" statements. After discussion the group re-votes. This process should continue until agreement is reached or until the varying perspectives of participants are understood. The instructor then reads the next description and repeats steps 2–5.

Activity Sheet #1

Student Description Worksheet

Student Description	Severely Disabled?	Why or Why Not?
Billy is identified as having autism. He is 12 years old. He speaks a few words but doesn't use them to indicate wants or to relate ideas to others. He can dress himself if his mother lays his clothes out for him. He eats and toilets himself independently. Safety is a concern as he often runs away from people.	Yes No	
Sara is has a severe hearing loss in one ear and has spina bifida which requires her to use a walker or wheelchair to move about. She is 10 years old, and academically is at or above grade level in all subjects. She speaks well and has a great sense of humor. She is independent in her self-care skills except that she still needs some help dressing.	Yes No	
John has Downs Syndrome. He is 19 years old. He reads at a 3rd grade level and can do basic math. He knows how to shop and use his favorite restaurants but has trouble making change and following a budget. He attends high school and holds down a part-time job with the assistance of a job coach.	Yes No	
Jesse is a 4 year old who has been identified as deaf-blind. He has some vision (can see bright lights) and wears a hearing aid in his left ear which allows him to hear with difficulty. He has some speech but is very hard to understand.	Yes No	

Note to the Instructor

There is no clear definition of severe disabilities. Participants should understand that severe disabilities cut across disability categories and generally refers to those students who will require life-long support in at least two major life areas.

Discussion Questions

Q: Who are the students you work with? How many would be considered severely disabled?

Q: Where are these children educated (regular classroom, resource room, special classroom, special school)?

Trust Walk Activity

Read Aloud

During this class we will be doing several activities to simulate various sensory and physical disabilities to give you a chance to gain a little understanding of some of the challenges that the students you work with face. The purpose of these activities is to gain insight into how our actions affect persons with disabilities. The first activity is called the Trust Walk. We will be using ear plugs and blindfolds to simulate hearing and vision loss.

1. Have the class break into pairs. Pass out a pair of foam ear plugs to each person and a blindfold to each pair.
2. Tell the class that they will take turns wearing the ear plugs and blindfold. The person who is blindfolded can not speak during the activity.
3. Ask one person in each pair to wear ear plugs and blindfold.
4. Tell the helpers to lead their partner around the room or up and down the hallway for a few minutes and seat them in a different chair. They are responsible for their partners comfort and safety during the exercise. Ask them to begin.
5. Once everyone is seated, motion the helpers to come to the front of the room and tell them to let their partners sit for 2 minutes. During that time, they should mill around the room, but do not talk to any of the persons who are seated. On your signal they should rejoin their partner and lead her back to her original seat.
6. Tell participants to remove the blindfolds and ear plugs.

Discussion Questions

Q. Did the guides communicate to their partners and let them know what was going on during the walk. How? Which communication methods were most effective?
Q. Did the person being led feel safe? Did you trust your guide? Why or why not?
Q. What could we do to make it a better experience?

Reverse partner roles and repeat the activity a second time. Tell participants to try to use the suggestions for making it a better experience.

Discussion Questions

Q. How was it this time?
Q. What can paraeducators do to help students with severe disabilities to trust them? To better understand what is going on around them? To feel more in control?

A3 PRINCIPLES AND ASSUMPTIONS (35 min.)

Show Overhead (OH 1-5)

Objective 2:

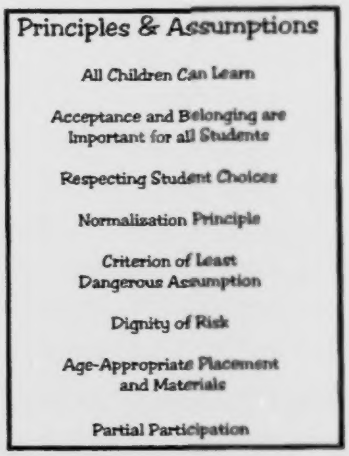
Paraeducators will know about assumptions and principles that affect the learning and inclusion of students with severe disabilities.

OH 1-5

Read Aloud

Objective 2: Paraeducators will know about a series of assumptions and principles that affect the learning and inclusion of students with severe disabilities.

Show Overhead (OH 1-6)



Principles & Assumptions

All Children Can Learn

Acceptance and Belonging are Important for all Students

Respecting Student Choices

Normalization Principle

Criterion of Least Dangerous Assumption

Dignity of Risk

Age-Appropriate Placement and Materials

Partial Participation

OH 1-6

Read Aloud

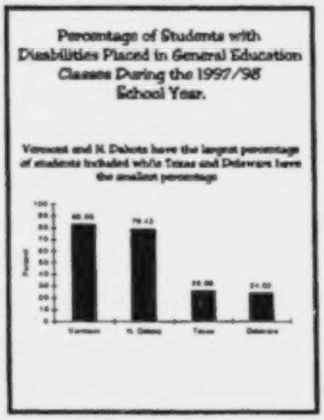
The principles and assumptions that we will be addressing in this class are:

All children can learn
Acceptance and belonging is important for all children
Respecting student choices
Normalization principle
Criterion of least dangerous assumption
Dignity of risk
Age-appropriate placement and materials
Partial Participation

Note to Instructor

There is a separate overhead for each assumption. The activity will be the same for each of the seven assumptions. The activity is called a think-pair-share. The class is asked a question to consider. Each person takes a minute to **think** about it. Next people **pair up** and discuss the question for a minute or two. Finally the instructor calls on a couple of people to **share** their ideas with the group. During whole group discussions only a few people can share their ideas. The **think-pair-share** allows all participants to consider the question and share ideas with at least one other person.

Show Overhead (OH 1-7)


Percentage of Students with Disabilities Placed in General Education Classes During the 1997/98 School Year.

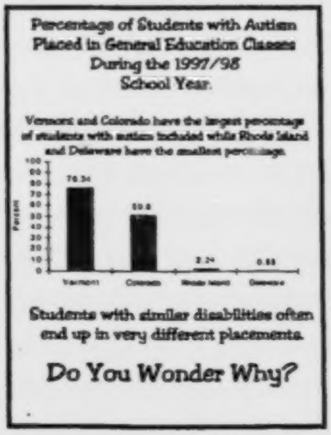
Vermont and N. Dakota have the largest percentage of students included while Texas and Delaware have the smallest percentage

OH 1-7

Read Aloud

The assumptions we will discuss today have had major impact on how we view students with severe disabilities and how they are educated. One indicator of changes is where students with severe disabilities are educated. Prior to the 1980s, the number of students educated in general education classrooms was close to zero nationwide. This overhead show us the percentage of students with severe disabilities placed in general education classes during the 1997/98 school year. Vermont and North Dakota had the largest percentage of students placed in general education classes and Texas and Delaware the smallest.

Show Overhead (OH 1-8)


Percentage of Students with Autism Placed in General Education Classes During the 1997/98 School Year.

Vermont and Colorado have the largest percentage of students with autism included while Rhode Island and Delaware have the smallest percentage.

Students with similar disabilities often end up in very different placements.

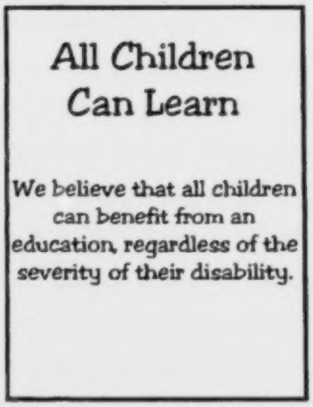
Do You Wonder Why?

OH 1-8

Read Aloud

The next overhead shows the percentage of students with autism placed in general education classes. Students with similar disabilities often end up in very different placements. Do you wonder why? As we discuss the principles and assumption, think about how they might affect where and how students are placed.

Show Overhead (OH 1-9)



All Children Can Learn

We believe that all children can benefit from an education, regardless of the severity of their disability.

OH 1-9

Read Aloud

The first assumption is that "All Children Can Learn." Although this was not always believed to be true, we now believe that all children can benefit from an education, regardless of the severity of their disability. I would like each of you to take one minute to write answers to these questions.

1. *How is this assumption important in your personal life?*
2. *How is this assumption reflected in your school? Give some examples. Begin Now.*

After 1 minute of think time: *Next I want you to pair up with a partner and spend two minutes sharing your thoughts.*

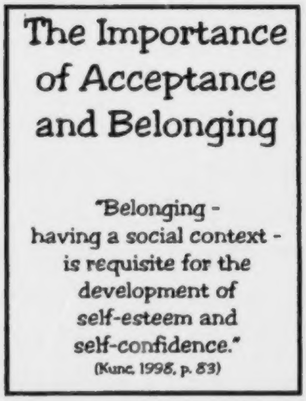
After 2 minutes of pairing: *Now I would like a few of you to share your thoughts with the group. Who would like to share examples for question 1 (How is this assumption important in your personal life?).*

After 2 minutes of sharing: *Who would like to share some examples for question 2 (How is this assumption reflected in your school?).*

After another 2 minutes of sharing. *Summarize the discussion and wrap up this assumption.*

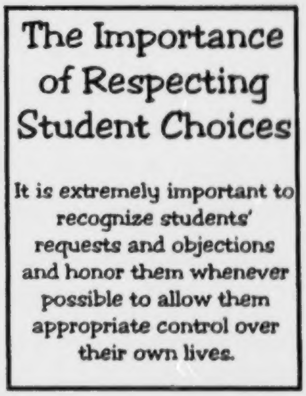
Note to Instructor:

Repeat the activity for the next three assumptions. Read each overhead and ask the questions "How is the assumption important in your life?" and "How is the assumption reflected in your school?" Use the think-pair-share format described on the previous page. You have about 7–8 minutes for each assumption. Some may take longer than others so keep track of your time so you don't run over.


The Importance of Acceptance and Belonging

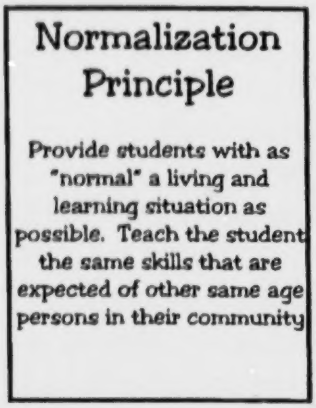
"Belonging - having a social context - is requisite for the development of self-esteem and self-confidence."
(Kunc, 1998, p. 83)

OH 1-10


The Importance of Respecting Student Choices

It is extremely important to recognize students' requests and objections and honor them whenever possible to allow them appropriate control over their own lives.

OH 1-11


Normalization Principle

Provide students with as "normal" a living and learning situation as possible. Teach the student the same skills that are expected of other same age persons in their community

OH 1-12

A4 BREAK (15 min.)

A5 CONTINUE PRINCIPLES AND ASSUMPTIONS (35 min.)

Note to Instructor:

Repeat the activity for the final four assumptions. Read each overhead and ask the questions "How is the assumption important in your life?" and "How is the assumption reflected in your school?" Use the think-pair-share format described on the previous page. You have about 7–8 minutes for each assumption. Some may take longer than others so keep track of your time so you don't run over.

40

Criterion Of The Least Dangerous Assumption

"in the absence of conclusive data educational decisions should be based on assumptions which, if incorrect, will have the least dangerous effect on the student"
(Donnellan, 1984, p. 142)

OH 1-13

Dignity of Risk

refers to those times when it is more important to the individual to risk injury or insult than to take the safe path. It is through taking risks that we grow as individuals.

OH 1-14

Age-Appropriate Placement And Materials

Age-appropriate placement refers to educating students of similar age (e.g., plus or minus two years) together.

Age-appropriate materials refers to using materials that would normally be used by similar aged persons.

OH 1-15

Partial Participation

refers to a process in which we can adapt an activity so that a student can complete a task even though she cannot do the task completely by herself

OH 1-16

?Q&A Discussion Questions

When we began this activity, we asked the question, "Why do students with similar disabilities often end up in very different placements?"

1. Can anyone think of why that might happen?
2. Do you think peoples' beliefs in the assumptions we just discussed might play a role in student placement?

A6 KNOWLEDGE REVIEW (20 min.)

Knowledge Review Procedures

1. Provide accommodations that may affect participation in the *Knowledge Review* as needed.
2. Distribute the *Knowledge Reviews*.
3. Review the instructions for completion (which are found at the top of the *Knowledge Review*) including asking participants to put their names on their reviews.
4. Give participants 10 minutes to complete the *Knowledge Review* (plus additional time as needed to ensure that all participants have ample time to complete the review).
5. After all participants have completed the *Knowledge Review*, guide them (as a group) through correction of their own reviews using the following procedures:
   a) Ask for a volunteer to read the first question on the *Knowledge Review.*
   b) Next, ask for volunteers to answer that question (if no participant volunteers, provide the answer).
   c) Scoring:
   - If the participant's circled response is correct, nothing further is required.
   - If the participant's circled response is incorrect, the participant should mark a check to the left of the item number and underline the correct response.

EXAMPLE:

✔ 1. Paraeducators are:
a) highly overpaid
[✓ b)] babysitters
c) important team members
d) spies for the administration

   d) Explain why the answer is correct and ask the class if they have any further questions. All of the *Knowledge Review* items are found in the unit's required readings; therefore, you should be familiar with the required readings to answer participant questions.
   e) Repeat steps a-d for the remaining *Knowledge Review* items.
   f) Collect all the *Knowledge Reviews*.
   g) Follow the procedures for summarizing the *Knowledge Review* data.

A7 EVALUATION, PRACTICUM, AND PREPARATION FOR THE NEXT CLASS (10 min.)

Refer to the Participant's Manual

1. Turn briefly to the practicum section of the Participant's Manual and ask participants if they have any questions about their practicum activities. Remind participants to share the "Cooperating Teacher Practicum Summary" with their cooperating teachers.
2. Assign the reading for the next class.
3. Ask the participants to complete the unit evaluation form and collect it along with the *Knowledge Reviews*.

Knowledge Review Unit 1: Principles and Assumptions

Name: ____________________

Date: ____________________

Site: ____________________

Instructor: ____________________

Directions: Read each question and circle the letter corresponding to the one item that you think is the best answer.

1. Which of the following characteristics is common in students with severe disabilities.
   - a. students usually need support in major life activities (e.g., domestic, vocational)
   - b. students are good at playing soccer and other sports
   - c. students have little trouble generalizing skills from one situation to another
   - d. students generally speak well
   - e. all of the above

2. Which of the following statements is true:
   - a. students with severe health problems cannot learn to read or write
   - b. all children can learn, regardless of the severity of their disability
   - c. some children just can not learn, no matter how hard we try
   - d. all of the above

3. Which of the following are "dimensions" of the "Criterion of Least Dangerous Assumption":
   - a. degree of opportunity for interactions with non-disabled peers
   - b. amount of time spent in the community
   - c. chronological age-appropriateness of the curriculum
   - d. all of the above

4. Which of the following statements is true about the "Normalization Principle":
   a. it was first cited by Freud in the early 1900s
   b. it was developed in reference to the need to include students in regular classes in local schools
   c. it was developed in reference to the design and operation of residences for persons with disabilities in Sweden
   d. a and c only

5. The "Criterion of Least Dangerous Assumption" should be considered:
   a. when considering whether to teach a student who is nonverbal to read
   b. when considering whether to allow a child with severe cerebral palsy (who cannot move well, cannot speak and is slow to respond to verbal requests) to attend a social studies class to listen to the teachers lectures
   c. when considering whether a student with disabilities should play soccer with his classmates
   e. a and b only

6. When should we consider the "Dignity of Risk" for students with severe disabilities:
   a. when considering whether or not a student should take part in a school performance
   b. when considering whether or not a student with health problems should attend school with her peers
   c. when considering whether a student with poor coordination should participate in gym class with his peers
   d. all of the above
   e. b and c only

7. The term "age-appropriate" in reference to placement or materials refers to:
   a. placement or materials that match the student's chronological age (e.g., + or – 2 years)
   b. placement or materials that match the student's developmental age
   c. placement or materials that match the student's intellectual functioning
   d. placement or materials that match the student's skill level
   e. all of the above

8. The use of "partial participation" can allow students with severe disabilities to:
   a. engage in activities that they currently do not have the skill to perform independently
   b. practice skills they have learned or are learning within a meaningful activity
   c. exercise a measure of independence
   d. relax while someone else does the work
   e. all of the above
   f. a, b, and c only

9. According to "Maslow's Hierarchy of Human Needs" which of the following statements is true:
   a. being hungry or cold can interfere with a child's learning ,
   b. a student with a severe disability does not belong in a regular classroom but should be with other students with severe disabilities
   c. feeling a sense of belonging and acceptance can facilitate achievement
   d. all of the above
   e. a and c only

10. When working with a student with a severe disability, it is important to include the student in discussions about him or her self (not talk about the student to another person as if the student were not there) because:
   a. it is rude and disrespectful to talk about someone as if they were not there
   b. it is important to model for others how to interact with the student
   c. since the student probably doesn't understand, it really doesn't matter
   d. a and b only

1) a

2) b

3) d

4) c

5) e

6) d

7) a

8) f

9) e

10) d

Overhead Masters

Unit 1:
Principles and Assumptions

Ground Rules for Confidentiality and Trust

1. Refrain from using the names of school colleagues.
2. Refrain from using the names of students or family members.
3. When identifying a situation, avoid using identifying information (e.g., my current supervisor).
4. If someone slips, commit to keeping the information within the group.

OH 1-1

Objective 1:

Paraeducators will know about common characteristics of students with severe disabilities.

OH 1-2

Students with severe disabilities are those students whose disabilities are so severe that they require ongoing, extensive support in more than one major life activity in order to participate in integrated community settings and pursue the quality of life available to people with fewer or no disabilities.

OH 1-3

Examples

A student with severe cerebral palsy who will need lifelong assistance with self-care activities (dressing, eating, toileting) and mobility.

A student who is non-verbal and blind will need assistance holding a job, shopping, and with the management of her finances.

OH 1-4

Objective 2:

Paraeducators will know about assumptions and principles that affect the learning and inclusion of students with severe disabilities.

OH 1-5

Principles & Assumptions

All Children Can Learn

Acceptance and Belonging are Important for all Students

Respecting Student Choices

Normalization Principle

Criterion of Least Dangerous Assumption

Dignity of Risk

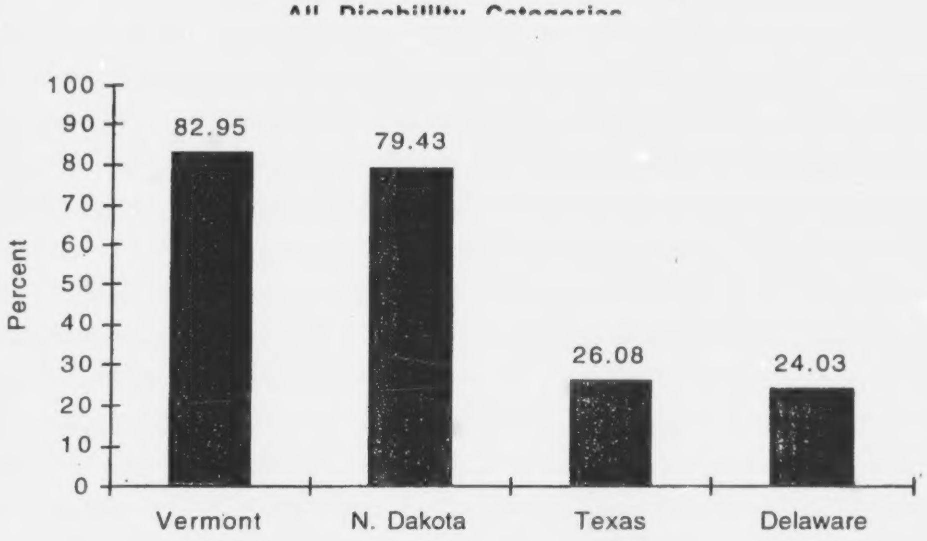
Age-Appropriate Placement and Materials

Partial Participation

OH 1-6

Percentage of Students with Disabilities Placed in General Education Classes During the 1997/98 School Year.

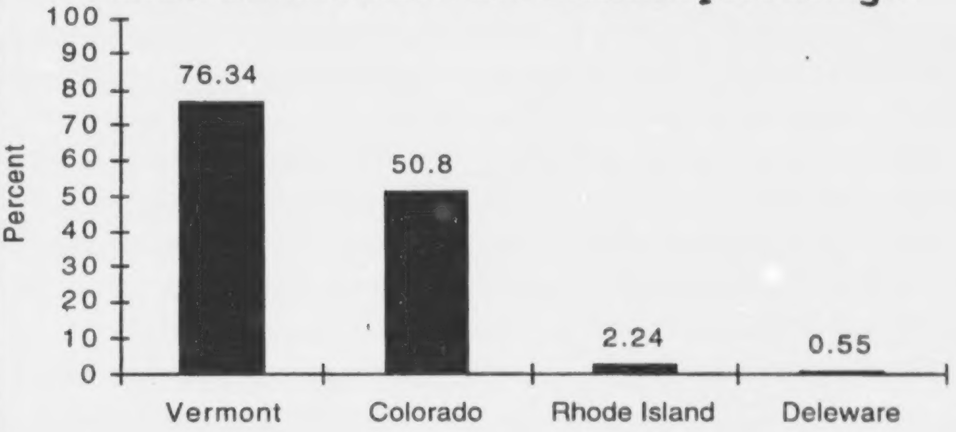
Vermont and N. Dakota have the largest percentage of students included while Texas and Delaware have the smallest percentage.



OH 1-7

Percentage of Students with Autism Placed in General Education Classes During the 1997/98 School Year.

Vermont and Colorado have the largest percentage of students with autism included while Rhode Island and Delaware have the smallest percentage.



Students with similar disabilities often end up in very different placements.

Do You Wonder Why?

OH 1-8

All Children Can Learn

We believe that all children can benefit from an education, regardless of the severity of their disability.

OH 1-9

The Importance of Acceptance and Belonging

"Belonging -
having a social context -
is requisite for the
development of
self-esteem and
self-confidence."
(Kunc, 1998, p. 83)

OH 1-10

The Importance of Respecting Student Choices

It is extremely important to recognize students' requests and objections and honor them whenever possible to allow them appropriate control over their own lives.

OH 1-11

Normalization Principle

Provide students with as "normal" a living and learning situation as possible. Teach the student the same skills that are expected of other same age persons in their community

OH 1-12

Criterion of the Least Dangerous Assumption

"in the absence of conclusive data educational decisions should be based on assumptions which, if incorrect, will have the least dangerous effect on the student"
(Donnellan, 1984, p. 142)

OH 1-13

Dignity of Risk

refers to those times when it is more important to the individual to risk injury or insult than to take the safe path. It is through taking risks that we grow as individuals.

OH 1-14

Age-Appropriate Placement and Materials

Age-appropriate placement refers to educating students of similar age (e.g., plus or minus two years) together.

Age-appropriate materials refers to using materials that would normally be used by similar aged persons.

OH 1-15

Partial Participation

refers to a process in which we can adapt an activity so that a student can complete a task even though she cannot do the task completely by herself

OH 1-16

Unit 2:

Augmentative and Alternative Communication

Timothy J. Fox

Instructor's Overview

Unit 2: Augmentative and Alternative Communication

Brief Description of Unit

This unit provides an overview of symbolic and non-symbolic communication and the variety and forms of augmentative and alternative communication methods. The information and activities included in this unit will help paraeducators to better understand student communications, create opportunities for communication to occur and understand ways to facilitate communicative interactions between the student, his or her peers, and other adults within the school and the community.

Hours of Instruction (in class format)

3 hours

Unit Objectives

Key: K = Knowledge, S = Skill (Knowledge objectives are addressed through reading and class activities; skill objectives are addressed through practicum activities)

1. Paraeducators will understand the characteristics of communication (symbolic and nonsymbolic) and the importance of trying to understand it. (K)

2. Paraeducators will know about a variety of forms of augmentative and alternative communication. (K)

3. Paraeducators will understand the importance of creating opportunities for communication and ways to facilitate it. (K)

4. Paraeducators will demonstrate their knowledge of augmentative and alternative communication with a student who has severe disabilities. (S)

Preparing for and Implementing the Unit

Required Readings (located only in the Participant's Manual)

Fox, T. (2001). *Augmentative communication: Glossary of key terms and ideas.* Unpublished manuscript, Burlington, VT: University of Vermont, Center on Disability and Community Inclusion.

Duncan, J., M. & Prelock, P., A. (1998). Communication systems in the classroom. In M. Giangreco, (Ed.). *Quick-guides to inclusion 2: Ideas for educating students with disabilities*. Baltimore, MD: Paul Brookes.

Instructor materials:

- overhead projector and screen
- Unit 2 overheads (must be copied onto transparencies)
- flip charts and markers
- masking tape
- card decks and communication aid for the *Let's Communicate* activity
- *Knowledge Review* (Unit 2) enough copies for all participants in the class

Instructor Preparation for the Unit

- Read the required readings prior to class (located only in the Participant's Manual).
- Gather all instructor materials including the card decks and communication aid for the *Let's Communicate* activity.
- Consider the physical arrangement of the classroom to facilitate class activities.
- Review Practicum Requirements for Unit 2.

Participant Preparation for the Unit:

- Read the required readings **prior to class**
- Write two questions based on required readings for discussion in class that are relevant to you and your situation.
- Bring writing materials for note taking and activities to class.
- Review Practicum Requirements for Unit 2.
- Bring your Participant's Manual to class.

Instructor Implementation of the Unit:
The unit includes an agenda with timelines, a lesson plan, required readings, a *Knowledge Review,* and practicum requirements to be completed in the educational setting. The agenda is located at the beginning of each unit. The activities are interspersed within the lesson plan. The *Knowledge Review* is located at the end of each unit.

Practicum Requirements

This unit has three required practicum activities which are designed to be completed at the end of the course. The paraeducator and cooperating teacher will collaborate to complete those activities. A practicum checklist of the activities to be completed and skills to be observed is found at the end of the manual. In the event that a practicum requirement is not appropriate for a paraeducator's specific situation, an alternate activity may be substituted based on negotiation with the cooperating teacher. The negotiated requirement must be approved by the course instructor.

Evaluation of Participant Learning

Participants are evaluated in three ways: (1) *Knowledge Review* quiz, (2) attendance and participation in class activities, and (3) completion of practicum requirements. In order to facilitate learning of required readings, participants will take the *Knowledge Review* quiz at the end of each class session and will receive immediate feedback in class. Participants are encouraged to review questions before class so they can be aware of them during class. This can improve a participant's success on the quizzes.

Suggested Supplemental Resources

Books and Articles:

Koegel, L. K. (1995). Communication and language intervention. In R. L. Koegel & L.K. Kogel. (Eds.). *Teaching children with autism*. Baltimore, MD: Paul H. Brookes.

Orelove, F. P. & Sobsey, D. (1996). Communication skills. In F. Orelove & D. Sobsey. (Eds.). *Educating children with multiple disabilities: A transdisciplinary approach.* (3rd Ed.). Baltimore, MD: Paul H. Brookes.

Siegel, E., & Wetherby, A. *(2000). Non-symbolic communication.* In M. E. Snell, & F. Brown, (Eds.). *Instruction of students with severe disabilities*. (5th ed.). (pp. 400-450). Upper Saddle River, New Jersey: Prentice Hall.

Web Sites:

Augmentative and Alternative Communication Centers
http://aac.unl.edu/

ACCI Augumentative Communication Consultants, Inc.
http://www.acciinc.com/index.html

ZYGO Industries
http://www.zygo-usa.com/

Mayer-Johnson, Inc.
http://www.mayerjohnson.com/

GUS Communications
http://www.gusinc.com/index.html

AAC Intervention.com
http://www.aacintervention.com/

Communication Devices, Inc.
http://www.comdevices.com/

Augmentative Communication Technology Review
http://members.aol.com/DGGRIM/indexA1.html

Augmentative Communication
http://www.ccboe.com/assistivetech/augcom.htm

Chen, D. & Schachter, P. H. (1997). *Making the most of early communication*. Distributed by AFB Press, American Federation for the Blind, 11 Penn Plaza, Suite 300, New York, NY, 10001.

You and Me: Communication. (1997). Teaching Research Division, Western Oregon State College. 345 N. Monmouth Ave., Monmouth, OR 97361. (503) 838-8821.

Agenda

Unit 2: Augmentative and Alternative Communication (3 hours)

	Agenda item	Time
A1.	Introduction	10 min.
	Greeting Activity (10 min.)	
A2	Characteristics of Communication	55 min.
	Introduce Objective 1 (2 min.) Define Function, Form and Mode (8 min.) Function Activity (10 min.) Mode/Form Activity (10 Min) Let's Communicate Activity (25 min)	
A3	Augmentative and Alternative Communication	15 min.
	Introduce Objective 2 (2 min.) Introduce Various Augmentative Systems (13 min)	
A4	BREAK	15 min.
	Partner Activity (30 Min)	30 min.
A5	Creating Opportunities for Communication	25 mins.
	Introduce Objective 3 (2 min.) How Can We Help Activity (23 Min.)	
A6	*Knowledge Review*	20 min.
A7	Evaluation, Practicum and Preparation for the Next Class	10 min.

A1 INTRODUCTION (10 min.)

Greeting Activity (10 min.)

1. Reintroduce yourself (giving your name and your role as instructor).
2. Introduce the activity and its purpose: to help participants to get to know one another. This is an important aspect of collaboration.
3. Give directions for this greeting activity.

Greeting procedure:

- Ask everyone to stand and form a large circle.
- Tell the participants that during introductions they should say their name, the school they work at and the movement they made up at the last class to represent a favorite hobby and name the hobby (e.g., gardening).
- Model the greeting procedure by reintroducing yourself mentioning your name, school, demonstrating your movement and saying your hobby.
- The group then says "Hi, *Hobby-name* " and does the movement (e.g., Hi, Biker-Bill, Hi Karate-Tim, Hi, Running-Joan). The second person in the circle then says his name, school, hobby and movement. The group says "Hi, hobby-second person" and does the movement, then says "Hi, hobby-first person" and does her movement.
- Continue the pattern until all persons have been introduced (1st; then 2nd, 1st; then 3rd, 2nd, 1st; then 4th, 3rd, 2nd, 1st; etc.).

A2 CHARACTERISTICS OF COMMUNICATION (55 min.)

Show Overhead (OH 2-1)

Objective 1:

Paraeducators will understand the characteristics of communication and the importance of trying to understand it.

OH 2-1

Read Aloud

Objective 1: Paraeducators will know about some general terms and ideas related to communication development and why it is important to understand and acknowledge student's communication attempts. Before we get started with the activities I would like to briefly go over a few definitions with you.

Show Overhead (OH 2-2)

Functions of
Communication
(Pragmatics)

refers to how we
use communication
to meet our needs.

(e.g. requests, refusals, get
information)

OH 2-2

Read Aloud

The functions of communication or "pragmatics" refers to the many reasons we communicate with others. For example, to make requests, to refuse or to get information.

Show Overhead (OH 2-3)

Mode of
Communication

refers to the
general category of
behavior we use to
communicate.

(e.g. vocal, gestural,
graphic)

OH 2-3

Read Aloud

The mode of communication refers to the general category of behavior we use to communicate. For example we communicate with our voices (vocal mode) or with our movements (gestural mode).

Show Overhead (OH 2-4)

Form of
Communication

refers to the actual
movement we use to
communicate.

(e.g., saying "ball", a scream,
pointing, signing "go")

OH 2-4

Read Aloud

The form of communication refers to the actual movement we use to communicate. For example, saying the work "ball" or using a finger to point is a form of communication.

Show Overhead (OH 2-5)

Symbolic
Communication

uses symbols that
represent something
else.

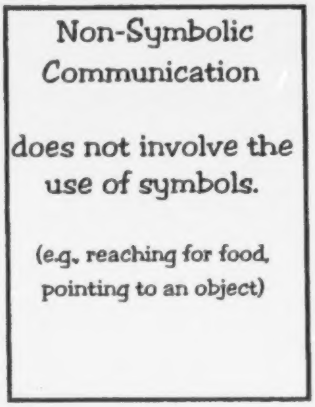
(e.g., spoken word "ball",
written word "car", picture
of a horse)

OH 2-5

Read Aloud

Symbolic communication refers to communicating with the use of symbols (words, pictures, signs). Most of our communication is symbolic. I am using symbols (words) to communicate with you now.

Show Overhead (OH 2-6)



Non-Symbolic Communication

does not involve the use of symbols.

(e.g., reaching for food, pointing to an object)

OH 2-6

Read Aloud

Non-symbolic communication does not involve using symbols. Reaching for the actual item you want is an example of non-symbolic communication. Now that we have gone over the definitions we are going to do a series of activities to help us better understand these terms.

Function of Communication Activity (10 min.)

1. Ask participants to take out a piece of paper and write down as many reasons **why** people communicate as they can think of. Write a starter sentence on a flip chart "People communicate to...." Give them 2 minutes.

2. Next call on each participant in turn to give one reason from their list. Write the reason on the chart paper. Ask participants to cross off items from their lists as the item is written on the chart paper. Continue calling on people until all items are listed. Do not list duplicate items.

3. Read each item from the chart paper and ask participants if this is also a reason that students that have a severe disability might want to communicate. Star those items that participants indicate are reasons for communicating for students they are working with.

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4. If there are items on the list that are not starred, discuss those items with the class. Are students really not using those functions or are they just not using formal language to communicate the various functions? If students are not currently using these functions, how are their lives affected?

Note to the Instructor

The purpose to this activity and the next one is to get participants thinking about why and how we communicate and to begin to think about how and why students with severe disabilities communicate. For the discussions at the end of each activity there are no right or wrong answers. Participants may have more questions than answers, which is fine.

Forms of Communication Activity (10 min.)

1. Ask participants to take out a piece of paper and write down as many **ways** people communicate as they can think of. Write a starter sentence on a flip chart "People communicate using...." Give them 2 minutes.

2. Next call on each participant in turn to give one communication form from their list. Write the form on the chart paper. Ask participants to cross off items from their lists as the item is written on the chart paper. Continue calling on people until all items are listed.

3. Read each item from the chart paper and ask participants if this is also a way (form) used to communicate by students with severe disabilities that they work with. The instructor will star those items are used by students class participants are working with.

4. If there are items on the list that are not starred, discuss those items with the class. Why are students not using these ways to communicate? Would learning to communicate using these forms be helpful to the students?

Let's Communicate Activity (25 min.)

1. Participants should be divided into groups of three for this activity.

2. Pass out a set of cards (see page 69) for each group. Ask participants to place the cards face down on the table (or floor if a group is seated on the floor) and not look at the cards.

3. Ask each group to select one member to take the first turn. That person will take the top card and read it to him/herself (tell them not to show the card to the other members of the group).

4. Ask the first person to communicate the information on the card to the other members of the group using only "**facial expressions**" (no talking, no gestures or other body movements!) The other two people will try to guess the information being communicated. Time 2 minutes for this activity. At the end of the time period, ask the class for a count of how many teams were successful communicating and what information they communicated. On a flip chart, write the mode (facial expressions) and how many teams were successful out of the total number of teams (e.g., 2 of 9 teams were successful). Also list the functions of communication that the successful teams communicated.

5. A new person from each group will take the second card from the pile and read it to him/herself. Ask that the information be communicated using **"facial expressions, body language and/or gestures"** (no sounds please). Time 2 minutes for this activity. At the end of the time period, ask the class for a count of how many teams were successful communicating and what information they communicated. On a flip chart, write the mode (facial expressions, body language and/or gestures) and how many teams were successful out of the total number of teams (e.g., 4 of 9 teams were successful). Also list the functions of communication that the successful teams communicated.

6. For the next activity give each team a communication card to use. The third person from each group will take the next card from the pile and read it to him/herself. Ask that the information be communicated using **"facial expressions, body language, gestures and/or the communication card."** Time 2 minutes for this activity. At the end of the time period, ask the class for a count of how many teams were successful communicating and what information they communicated. On a flip chart, write the mode and how many teams were successful out of the total number of teams (e.g., 8 of 9 teams were successful). Also list the functions of communication that the successful teams communicated.

7. The first person from each group will take the next card from the pile and read it to him/herself. Ask that person to communicate the information on the card using **body language and a "yes" or "no" response** (can be head nod/shake, or saying "yes" and "no"). Time 2 minutes for this activity. At the end of the time period, ask the class for a count of how many teams were successful communicating and what information they communicated. On a flip chart, write the mode and how many teams were successful out of the total number of teams (e.g., 8 of 9 teams were successful). Also list the functions of communication that the successful teams communicated.

8. Review the information gathered on the flip chart. Ask the class to look for patterns. As we added forms of communication were we able to communicate more information? Were symbolic communications more easily understood than non-symbolic communications? Was it easier to communicate? Was it less frustrating? Which methods took less time?

Materials:

1. Photocopy and cut out the following sentences or write them on 3x5 cards. Make a set of cards for each group of three participants to use during the activity.

May I have a drink?	My stomach hurts.
My favorite color is red.	I love you.
What is your name?	Leave me alone!
I like to watch TV.	It's too loud!

2.. Make a copy of the following communication card for each team to use during the game.

I/Me	He	She
Need	Like	Want
Food	Drink	Play
Go	Stop	Help
School	Outside	Home
TV	Computer	Music
Happy	Sad	Hurt

A3 AUGMENTATIVE AND ALTERNATIVE COMMUNICATION (45 min.)

Show Overhead (OH 2-7)

Objective 2:

Paraeducators will know about a variety of forms of augmentative and alternative communication.

OH 2-7

Read Aloud

Objective 2: Paraeducators will know about a variety of forms of augmentative and alternative communication.

Show Overhead (OH 2-8)

Alternative Communication

refers to using a mode other than speech.

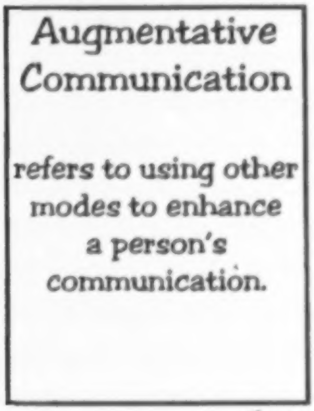
(e.g., sign language, electronic communication device)

OH 2-8

Read Aloud

Alternative communication refers to using a mode of communication other than speech, which is the mode we typically use. For example, if a person cannot speak due to a hearing loss, he could use American Sign Language as an alternative to speech. Another person might hear just fine but have limited use of the muscles of the neck and mouth. That person might sign also or he might use an electronic communication device.

Show Overhead (OH 2-9)


Augmentative Communication

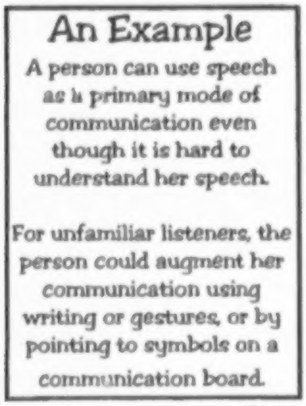
refers to using other modes to enhance a person's communication.

OH 2-9

Read Aloud

Augmentative communication refers to using other modes of communication to enhance a person's communication.

Show Overhead (OH 2-10)


An Example

A person can use speech as h primary mode of communication even though it is hard to understand her speech.

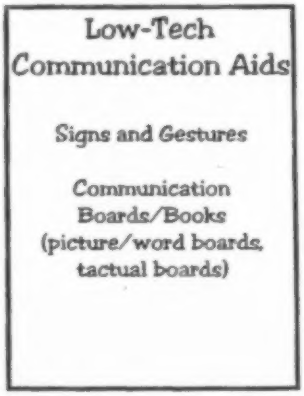
For unfamiliar listeners, the person could augment her communication using writing or gestures, or by pointing to symbols on a communication board.

OH 2-10

Read Aloud

For example, a person can use speech as a primary mode of communication even though her speech is hard to understand. For unfamiliar listeners or for those occasions when familiar listeners do not understand, she could augment her communication with signs, gestures or with the use of a communication board or electronic device. Communication aids can be low or high tech.

Show Overhead (OH 2-11)


Low-Tech Communication Aids

Signs and Gestures

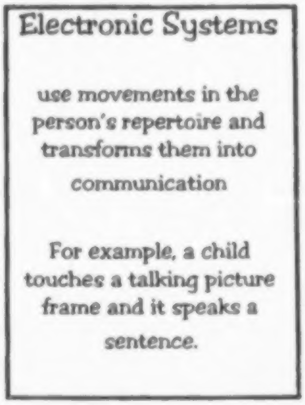
Communication Boards/Books (picture/word boards, tactual boards)

OH 2-11

Read Aloud

Low-tech communication aids are those aides that do not include electronic devices such as signs and gestures, communication cards, boards and books that might be made with pictures, line-drawings, words, or symbols such as Mayer-Johnson Symbols or Bliss Symbols. This also includes tactual communication boards that use objects for students with visual impairments to feel.

Show Overhead (OH 2-12)


Electronic Systems

use movements in the person's repertoire and transforms them into communication

For example, a child touches a talking picture frame and it speaks a sentence.

OH 2-12

Read Aloud

Electronic systems use movements in the person's repertoire and transform them into communication. For example a child can touch a talking picture frame with a picture of a swing set on it and the frame will play a prerecorded message, "I want to go out and play." A simple muscle twitch can activate a switch that can begin a scan of symbols on a communication device. A second muscle twitch can activate the switch to stop the scan and cause the device to play a recorded message such as, "Hi, My name is Tim. How are you?"

Note to the Instructor

If you have electronic communication devices available (e.g., cheap talker, talking picture frames, switches that allow for voice output, paper communication boards or books) this is a good time to share them with the class. Give the class a few minutes to look at the materials, to ask questions and to discuss the types of devices they have available to the children they work with.

A4 BREAK (15 min.)

Partner Activity (30 min.)

1. Participants must be divided into pairs for this activity.
2. Ask each pair to discuss their hobbies for the next few minutes. Allow each pair to talk for about three minutes.
3. Ask each pair to stop their discussion and have each person write his/her impressions of their discussion. Some starter questions might include: How did it feel? Was it fun? Did you laugh? Did they feel valued? Did you learn anything about the other person? Allow them to reflect and write for 2 minutes.
4. Ask each pair to continue their conversation, but this time they cannot talk. They must communicate by writing notes to each other. Allow them to communicate for about three minutes.
5. Again ask each pair to stop their discussion and have each person write his/her impressions of their discussion. Use the same starter questions you used before. Allow them to reflect and write for another 2 minutes.
6. Ask each pair to continue their conversation, but to write with their non-preferred hand.
7. Again ask each pair to stop their discussion and have each person write his/her impressions of their discussion. Use the same starter questions you used before. Allow them to reflect and write for another 2 minutes.

8. Ask each pair to take a few minutes and share with each other the differences in how the three conversations felt. Allow them to talk for about 2 - 3 minutes.

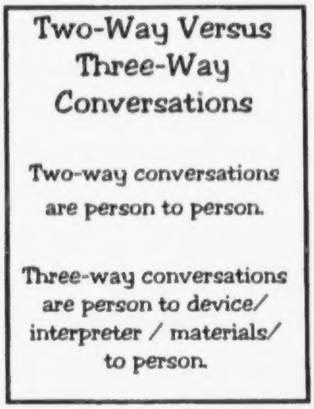
9. On chart paper, write "verbal conversation" and ask participants to look at their first written impressions and to share some adjectives that capture the experience (e.g., fun, interesting, social, relaxing).

10. When the class has finished with this list write "Written Conversation" on the chart paper and ask the class to repeat the process (write adjectives describing their impressions of this conversation on the chart paper).

11. When the class has finished with this list write "Non-preferred Hand" on the chart paper and ask the class to repeat the process (write adjectives describing their impressions of this conversation on the chart paper).

12. When all of the adjectives are written, go over each list and star those adjectives that people perceive as positive on all three lists. Next go over each list and circle those adjectives that people perceive as negative. Which list had the most positive adjectives? Which the most negative? Why? Allow the class a few minutes to discuss these issues?

Show Overhead (OH 2-13)



Two-Way Versus
Three-Way
Conversations

Two-way conversations
are person to person.

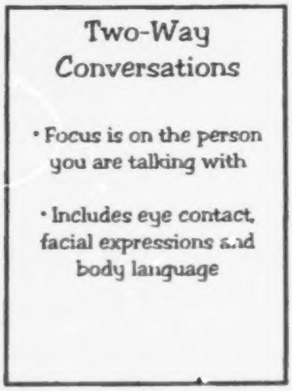
Three-way conversations
are person to device/
interpreter / materials/
to person.

OH 2-13

Read Aloud

This activity has given us an example of the differences between two-way conversations and three-way conversations. Two way conversations are person to person. This includes two people speaking to each other or signing to each other (if both speak the same language or both can sign). Three-way conversations happen when another person is required to interpret for us or when we must use materials (such as pen and pencil or a communication device) to be able to communicate.

Show Overhead (OH 2-14)



Two-Way Conversations

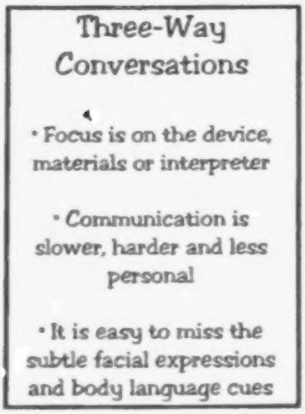
- Focus is on the person you are talking with
- Includes eye contact, facial expressions and body language

OH 2-14

Read Aloud

Two way conversations are the most effective. During two-way conversations we focus our attention on the person we are talking with. Because we are focusing on and looking at the other person our conversation includes information gained through eye contact, facial expressions and body language.

Show Overhead (OH 2-15)



Three-Way Conversations

- Focus is on the device, materials or interpreter
- Communication is slower, harder and less personal
- It is easy to miss the subtle facial expressions and body language cues

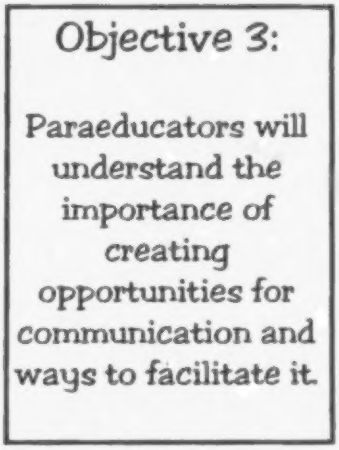
OH 2-15

Read Aloud

Three-way conversations requires us to focus attention on the third element of the conversation (the materials, the devices or the interpreter). Communication is slower, harder to sustain and less personal. With three-way conversations it is easy to miss the subtle communications we send and receive through facial expressions, voice tone and body language.

A5 CREATING OPPORTUNITIES FOR COMMUNICATION (25 min.)

Show Overhead (OH 2-16)



Objective 3:

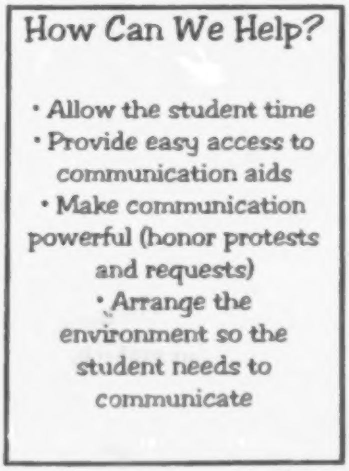
Paraeducators will understand the importance of creating opportunities for communication and ways to facilitate it.

OH 2-16

Read Aloud

Objective 2: Paraeducators will know about a variety of forms of augmentative and alternative communication.

Show Overhead (OH 2-17)



How Can We Help?

- Allow the student time
- Provide easy access to communication aids
- Make communication powerful (honor protests and requests)
- Arrange the environment so the student needs to communicate

OH 2-17

Read Aloud

How can we help students to communicate more effectively. Some general ways include: 1) Give students the time they need to organize their thoughts and get their message out and to process the messages that are being sent to them so that they can respond. 2) If students use materials or a communication device to communicate, make sure the materials are available at all times. 3) Honor student requests as much as possible. For students to want to use language they must feel the power of language. For students with physical disabilities, communication is one of the few ways they can control their environment. 4) As much as possible, arrange the environment so the student needs to communicate. For example, if you see that the student needs help, don't jump right in. Give the student time and if needed instruction to ask for your help.

How Can We Help Activity (20 min.)

Refer to the Participant's Manual

1. Direct participants to refer to the "How Can We Help?" activity sheet (Activity Sheet #2) located in their Participant's Manual.
2. Read the activity directions to the class. Ask if anyone has any questions.

   Activity Directions
   a) Think about a student that you work with that has needs in the area of communication. Complete the following worksheet with this student in mind. You have 5 minutes to complete the worksheet.

   b) For each issue listed on the worksheet (time, access, responding to students requests, creating a need to communicate) decide if this issue is an important issue for your student. Circle "yes" or "no."

   c) After you have considered each issue, go back to those issues that you indicated were issues for your student (you circled "yes") and list at least three things you could do to make the situation better.

   d) Choose a partner and share your issues and ideas for 3 minutes.

   e) On chart paper the instructor will list each issue, ask how many participants listed it as an issue for their student (the instructor will write the number next to the issue) and ask for participants to share some ideas. (10 minutes)

Activity Sheet #2

How Can We Help? Worksheet

Communication Issues	Is it an issue for my student?	What can I do to help? My Ideas
Needs More Time to process, to organize thoughts or to respond	Yes No	
Needs Consistent Access to materials (communication book / board) or a device.	Yes No	
Needs More Requests Honored Are we listening to what the student is telling us and honoring his/her requests (e.g., to continue an activity, to stop an activity, for help, for time, for access to materials or people).	Yes No	
Needs More Opportunities to Use Communication Skills Are we creating opportunities for the student to use the skills he/she is learning?	Yes No	

A6 KNOWLEDGE REVIEW (20 min.)

Knowledge Review Procedures

1. Provide accommodations that may affect participation in the *Knowledge Review* as needed.
2. Distribute the *Knowledge Reviews*.
3. Review the instructions for completion (which are found at the top of the *Knowledge Review*) including asking participants to put their names on their reviews.
4. Give participants 10 minutes to complete the *Knowledge Review* (plus additional time as needed to ensure that all participants have ample time to complete the review).
5. After all participants have completed the *Knowledge Review*, guide them (as a group) through correction of their own reviews using the following procedures:
   a) Ask for a volunteer to read the first question on the *Knowledge Review*.
   b) Next, ask for volunteers to answer that question (if no participant volunteers, provide the answer).
   c) Scoring:
   - If the participant's circled response is correct, nothing further is required.
   - If the participant's circled response is incorrect, the participant should mark a check to the left of the item number and underline the correct response.

EXAMPLE:

✓ 1. Paraeducators are:
a) highly overpaid
[✓ b)] baby-sitters
c) important team members
d) spies for the administration

d) Explain why the answer is correct and ask the class if they have any further questions. All of the *Knowledge Review* items are found in the unit's required readings; therefore, you should be familiar with the required readings to answer participant questions.
e) Repeat steps a-d for the remaining *Knowledge Review* items.
f) Collect all the *Knowledge Reviews*.
g) Follow the procedures for summarizing the *Knowledge Review* data.

A7 EVALUATION, PRACTICUM, AND PREPARATION FOR THE NEXT CLASS (10 min.)

Refer to the Participant's Manual

1. Turn briefly to the practicum section of the Participant's Manual and ask participants if they have any questions about their practicum activities. Remind participants to share the "Cooperating Teacher Practicum Summary" with their cooperating teachers.
2. Assign the reading for the next class.
3. Ask the participants to complete the unit evaluation form and collect it along with the *Knowledge Reviews*.

Note to the Instructor

Warning: Anxiety Reducer. The reading in this section are quite large. You may want to tell participants that the readings are a resource and that they are not expected to read every word.

Knowledge Review Unit 2: Augmentative and Alternative Communication

Name: ______________________________

Date: ______________________________

Site: ______________________________

Instructor: ______________________________

Directions: *Read each question and circle the letter corresponding to the one item that you think is the best answer.*

11. Which of the following are examples of non-symbolic communication:
    - a) an adult smiling because she is happy
    - b) a child pointing to a word printed on a communication board to indicate that he wants to go outside and play
    - c) a 5th grader reading *Harry Potter*
    - d) a child signing the word "cracker"

12. Which of following are examples of using situational or context cues to understand a persons non-symbolic communication:
    - a) a school fire alarm goes off and a student begins to cry
    - b) a student asks for a drink of water
    - c) a student asks a question during math class
    - d) a student punches a classmate on the arm after the classmate cut in line in front of him
    - e) a and b only
    - f) a and d only

13. The form of communication refers to:
    - a) the general category of behavior used to communicate
    - b) the actual movements we use to communicate
    - c) how we use communication to meet our needs
    - d) speaking loudly or softly
    - e) b and d only

14. Which of the following statements are true:
   a) a student with a severe disability that has great difficulty expressing herself may have a very well developed receptive language system
   b) some children with severe disabilities do not communicate
   c) a student's challenging behavior (e.g., hitting, crying, running away) is a form of communication.
   d) a and b only
   e) a and c only

15. Alternative and augmentative communication includes:
   a) pointing, gesturing and eye gazing
   b) sign language, picture symbols, computer generated speech
   c) speaking or writing
   d) all of the above
   e) a and b only

16. Which are important for developing a communication-friendly environment:
   a) developing an awareness among students and school personnel of the communication system used by the student
   b) teachers who model for their students how to interact and communicate with their classmate with a severe disability
   c) teachers who provide activities during which students must communicate their ideas in ways other than by speaking or writing
   d) all of the above
   e) a and b only

17. Intentional behavior:
   a) is goal oriented / purposeful behavior
   b) is random behavior that means very little
   c) is how newborns communicate
   d) all of the above

18. When a student is learning a communication system it is important to:
    a) help the student as much as possible so they do not need to communicate as much
    b) create opportunities for the student to use her communication system across the school day with a variety of communication partners in a variety of settings
    c) ask other students to ignore the students requests unless she uses her new system
    d) limit the students access to the new system except for during 1:1 teaching times

19. When a student communicates non-symbolically it is important to:
    a) develop a relationship with the student
    b) take the time to really look at and listen to the student
    c) look for contextual cues to help you interpret the students communications
    d) all of the above

20. Augmentative communication:
    a) is using a blow horn so that our words are louder
    b) is learning to speak French prior to taking a trip to France
    c) is using another mode (along with a primary mode of communication) to enhance a person's communication so she can be understood by a wider audience
    d) all of the above

11) a

12) f

13) e

14) e

15) e

16) d

17) a

18) b

19) d

20) c

Overhead Masters

Unit 2:
Augmentative and Alternative Communication

Objective 1:

Paraeducators will understand the characteristics of communication and the importance of trying to understand it.

OH 2-1

Functions of Communication (Pragmatics)

refers to how we use communication to meet our needs.

(e.g., requests, refusals; get information)

OH 2-2

Mode of Communication

refers to the general category of behavior we use to communicate.

(e.g., vocal, gestural, graphic)

OH 2-3

Form of Communication

refers to the actual movement we use to communicate.

(e.g., saying "ball", a scream, pointing, signing "go")

OH 2-4

Symbolic Communication

uses symbols that represent something else.

(e.g., spoken word "ball," written word "car," picture of a horse)

OH 2-5

Non-Symbolic Communication

does not involve the use of symbols.

(e.g., reaching for food, pointing to an object)

OH 2-6

Objective 2:

Paraeducators will know about a variety of forms of augmentative and alternative communication.

OH 2-7

Alternative Communication

refers to using a mode other than speech.

(e.g., sign language, electronic communication device)

OH 2-8

Augmentative Communication

refers to using other
modes to enhance
a person's
communication.

OH 2-9

An Example

A person can use speech as a primary mode of communication even though it is hard to understand her speech.

For unfamiliar listeners, the person could augment her communication using writing or gestures, or by pointing to symbols on a communication board.

OH 2-10

Low-Tech Communication Aids

Signs and Gestures

Communication
Boards/Books
(picture/word boards,
tactual boards)

OH 2 - 11

Electronic Systems

use movements in the person's repertoire and transforms them into communication

For example, a child touches a talking picture frame and it speaks a sentence.

OH 2 - 12

Two-Way Versus Three-Way Conversations

Two-way conversations are person to person.

Three-way conversations are person to device/ interpreter/ materials/ to person.

OH 2 - 13

Two-Way Conversations

- Focus is on the person you are talking with

- Includes eye contact, facial expressions and body language

OH 2 - 14

Three-Way Conversations

- Focus is on the device, materials or interpreter

- Communication is slower, harder and less personal

- It is easy to miss the subtle facial expressions and body language cues

OH 2 - 15

Objective 3:

Paraeducators will understand the importance of creating opportunities for communication and ways to facilitate it.

OH 2-16

How Can We Help?

- Allow the student time
- Provide easy access to communication aids
- Make communication powerful (honor protests and requests)
- Arrange the environment so the student needs to communicate

OH 2 - 17

Unit 3:

Health and Safety

Timothy J. Fox

Instructor's Overview

Unit 3: Health and Safety

Brief Description of Unit

This unit provides an overview of the general health and safety issues pertaining to students with severe disabilities. Paraeducators will also gain information about basic guidelines for safely transferring, lifting, positioning and assisting the movement of students who require such assistance. Guidelines for assisting a student who uses a mobility device (e.g., a wheelchair) will also be covered.

Hours of Instruction (in class format)

3 hours

Unit Objectives

Key: K = Knowledge, S = Skill (Knowledge objectives are addressed through reading and class activities; skill objectives are addressed through practicum activities)

1. Paraeducators will be aware of general health and safety issues pertaining to students with severe disabilities. (K)
2. Paraeducators will know basic guidelines for safely assisting a student who uses a mobility device (e.g., wheelchair). (K)
3. Paraeducators will know basic guidelines for safely lifting, transferring, positioning, and assisting the movement of students who require such assistance. (K)
4. Paraeducators will demonstrate their knowledge of health and safety issues pertaining to students with severe disabilities. (S)

Preparing for and Implementing the Unit

Required Readings (located only in the Participant's manual)

Ault, M. M., Rues, J. P., Graff, J. C.., & Holvoet, J.F. (2000). Special health care procedures. In M. E. Snell & F. Brown (Eds.), *Instruction of students with severe disabilities.* (5th ed.), (pp. 245 - 290). Upper Saddle Run, New Jersey: Prentice Hall.

Giangreco, M. F., McEwen, I., Fox, T., Lisi-Baker, D. (in press). Assisting students who use wheelchairs: Guidelines for school personnel. In M. Giangreco (Ed.), *Quick-guides to inclusion 3*: Ideas for educating students with disabilities. Baltimore: Paul H. Brookes.

Rainforth, B. & York-Barr, J. (1996). Handling and Positioning. In F. P. Orelove & D. Sobsey, (Eds.), *Educating children with multiple disabilities: A transdisciplinary approach.* (3rd ed.), (pp. 79-118). Baltimore: Paul H. Brookes.

Instructor materials:
- overhead projector and screen
- Unit 3 overheads (must be copied onto transparencies)
- flip charts and markers
- masking tape
- nametags
- wheelchairs for participants to utilize during in-class activities (1 wheelchair for each 3 three participants is ideal)
- *Knowledge Review* (Unit 3) enough copies for all participants in the class

Instructor Preparation for the Unit:
- Read the required readings prior to class (located only in the Participant's Manual).
- Gather all instructor materials.
- Consider the physical arrangement of the classroom to facilitate class activities.
- Review Practicum Requirements for Unit 3.
- Arrange for a physical therapist to attend class and lead the class in a few positioning and handling activities (30 minute activity time).

Participant Preparation for the Unit:
- Read the required readings **prior to class**
- Write two questions based on required readings for discussion in class that are relevant to you and your situation.
- Bring writing materials for note taking and activities to class.
- Review Practicum Requirements for Unit 3.
- Bring your Participant's Manual to class.

Instructor Implementation of the Unit:
The unit includes an agenda with timelines, a lesson plan, required readings, a *Knowledge Review,* and practicum requirements to be completed in the educational setting. The agenda is located at the beginning of each unit. The activities are interspersed within the lesson plan. The *Knowledge Review* is located at the end of each unit.

Practicum Requirements

This unit has three required practicum activities which are designed to be completed at the end of the course. The paraeducator and cooperating teacher will collaborate to complete those activities. A practicum checklist of the activities to be completed and skills to be observed is found at the end of the manual. In the event that a practicum requirement is not appropriate for a paraeducator's specific situation, an alternate activity may be substituted based on negotiation with the cooperating teacher. The negotiated requirement must be approved by the course instructor.

Evaluation of Participant Learning

Participants are evaluated in three ways: (1) *Knowledge Review* quiz, (2) attendance and participation in class activities, and (3) completion of practicum requirements. In order to facilitate learning of required readings, participants will take the *Knowledge Review* quiz at the end of each class session and will receive immediate feedback in class. Participants are encouraged to review questions before class so they can be aware of them during class. This can improve a participant's success on the quizzes .

Suggested Supplemental Resources

Books and Articles:

Bleile, K. (Ed.). (1993). *The care of children with long-term tracheostomies*. San Diego: Singular.

Jaeger, D. L. (1989). *Transferring and lifting children and adolescents: Home instruction sheets*. Therapy Skill Builders. Tucson: AZ.

Mayall, J.K. & Desharnais, G. (1995). *Positioning in a wheelchair*. (2nd ed.). New Jersey: Slack, Inc.

Web Sites:

Cerebral Palsy Information Central
http: / / geocities.com / aneecp / index2.htm
Epilepsy Foundation of America
http: / / www.efa.org /
Physical Therapy Devices
http: / / www.physical-therapy-devices.com /

Videos:

Feeding & Swallowing: The impact of proper positioning and handling on feeding. (1990). The University of Nebraska Medical Center, Meyer Rehabilitation Institute. Omaha, Nebraska. (402) 559-7467.

Positioning for infants and young children with motor problems. (1987). Distributed by Learner Managed Designs, Inc. Lawrence, Kansas. (913) 842-9088.

Feeding infants and young children with special needs. (1989). Distributed by Learner Managed Designs, Inc. Lawrence, Kansas. (913) 842-9088.

CPR and emergency procedures for choking for infants and young children. (1987). Distributed by Learner Managed Designs, Inc. Lawrence, Kansas. (913) 842-9088.

Positioning and transferring students with severe disabilities. (1993). Madison Metropolitan School District. Madison, WI.

Agenda

Unit 3: Health and Safety (3 hours)

	Agenda Item	Time
A1	Introduction	5 min.
	Warm-up Activity (5 min.)	
A2	General Health and Safety Issues	40 min.
	Introduce Objective 1 (2 min.) Discussion of General Health Issues (8 min.) Health and Safety Activity (30 min.)	
A3	Using Mobility Devices Safely	50 min.
	Introduce Objective 2 (2 min.) Discussion of Mobility Safety Issues (3 min.) Let's Use a Wheelchair Activity (45 min.)	
A4	BREAK	15 min.
A5	Lifting, Transferring and Positioning	40 mins.
	Introduce Objective 3 (2 min.) Discussion of Issues (8 min.) Positioning Activity (30 min.)	
A6	*Knowledge Review*	20 min.
A7	Evaluation, Practicum and Preparation for the Next Class	10 min.

Lesson Plan Unit 3: Health and Safety

A1 INTRODUCTION (10 min.)

Warm-up Activity (5 min.)

1. Welcome everyone to class.
2. Introduce the activity and its purpose: to help participants to get ready for class and to have some fun.
3. Give directions for the warm-up activity.

Warm-up procedure:

- Form the class into a circle. Tell the class that the name of this activity is "pass the mask."
- One person must make an unusual facial expression and pass it to the next person by looking at the person, making the face.
- That person should look at the next person in line, imitate the expression that was passed to him or her , transform it into a new expression, and pass it on to the next person.
- Continue around the circle until everyone has had a turn.

A2 GENERAL HEALTH AND SAFETY ISSUES (40 min.)

Show Overhead (OH 3-1)

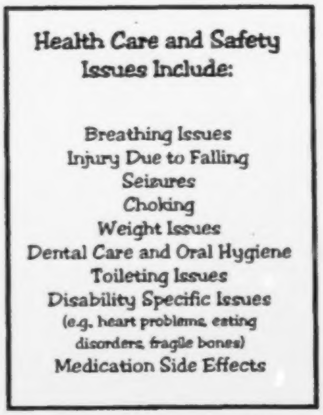
Objective 1:
Paraeducators will
be aware of
general health
and safety issues
pertaining to
students with
severe disabilities.

OH 3-1

Read Aloud

Objective 1: Paraeducators will be aware of general health and safety issues pertaining to students with severe disabilities. Students with health and safety issues are similar to all other students in that they have a right to an appropriate education in the least restrictive environment. However, students with health and/or safety concerns will require additional accommodations and supports to be successful in school.

Show Overhead (OH 3-2)



Health Care and Safety Issues Include:

Breathing Issues
Injury Due to Falling
Seizures
Choking
Weight Issues
Dental Care and Oral Hygiene
Toileting Issues
Disability Specific Issues
(e.g. heart problems, eating disorders, fragile bones)
Medication Side Effects

OH 3-2

Read Aloud

Health care and safety issues that students with severe disabilities may exhibit in school include:

> ***Breathing issues.*** *Some students, especially those with physical disabilities that severely limit their movement are at risk of getting respiratory infections which can be life threatening. Other issues related to breathing include tracheostomy care and periodic suctioning.*
>
> ***Injury due to falling.*** *Many students with severe disabilities have poor muscle control and balance or have seizures that can cause the student to fall.*
>
> ***Seizures.***
>
> ***Choking.***
>
> ***Weight issues.*** *This can be the student that has great difficulty eating and the concern is how to help the student gain weight or the student who cannot control his or her eating and the concern is gaining too much weight.*
>
> ***Dental care and oral hygiene.***
>
> ***Toileting issues.*** *These issues can include hygiene issues related to toileting or intestinal ostomy care or clean intermittent catheterization.*

117

Disability specific issues. *Some disabilities have health issues related to the disability. For example, children with Downs syndrome often have heart problems. Some children with cerebral palsy have issues with eating and swallowing or breathing issues.*

Medication side effects. *Some children with severe disabilities are on medications. Depending on the medication side effects can include sleep problems, loss of weight or weight gain. It is always a good idea to find out what medications your student is taking and learning if the medication has side effects and what they are.*

Health and Safety Activity (30 min.)

Refer to the Participant's Manual

Required readings Unit 3, Activity Sheet #4

1. Direct participants to refer to the "Health and Safety" activity sheet located in their Participant's Manual.

2. Divide this class into groups of 2 or 3. Ask each group to consider each health and safety issue listed and indicate the number of students they know of in their schools that currently have the issue. How many past students do they know of that had the issue? Note: The number written should be the sum of the groups experience. For example, if one person knows of 3 students, another group member knows of 1 and the third group member knows of no students, the number would be 4 (3+1+0 = 4). Ask the groups to quickly go through all of the issues and total their numbers before discussing any one issue. *Allow 3 minutes.*

3. After listing their numbers for all of the issues, ask each group to select an area that there is at least 1 student and discuss how the issue was dealt with. Ask the group to share their experiences for a few moments and write a few words describing how the issue was dealt with (e.g., school nurse fed the student, staff had walkie talkies).

4. Tell each group to get through as many issues as they can in the time allotted. *Allow 10 minutes.*

5. List each general health area on chart paper. For each area get a count of how many participants know of current or past students with issues in the area. 2 *minutes*

6. Ask a few teams to share how one issue was dealt with in their school. *12 minutes*

7. At the end of the discussion, ask participants to write any questions or concerns that they have on the bottom of their worksheet (this worksheet will be used during their practicum assignment). 3 *minutes*

Activity Sheet #4

General Issues	Issues We Have Dealt With
Breathing Issues	How many current students have this issue? How many past students had this issue? How was the issue dealt with?
Injury Due to Falling	How many current students have this issue? How many past students had this issue? How was the issue dealt with?
Seizures	How many current students have this issue? How many past students had this issue? How was the issue dealt with?
Choking	How many current students have this issue? How many past students had this issue? How was the issue dealt with?
Weight Issues	How many current students have this issue? How many past students had this issue? How was the issue dealt with?

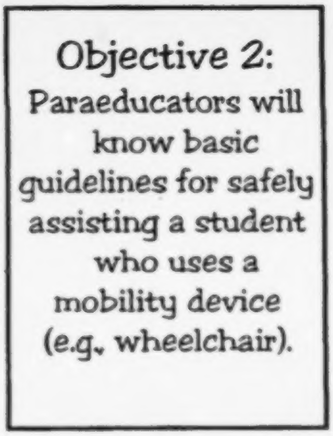
Activity Sheet #4 (Con't)

General Issues	**Issues We Have Dealt With**
Dental Care and Oral Hygiene	How many current students have this issue? How many past students had this issue? How was the issue dealt with?
Toileting Issues	How many current students have this issue? How many past students had this issue? How was the issue dealt with?
Disability Specific Issues	How many current students have this issue? How many past students had this issue? How was the issue dealt with?
Medication Side Effects	How many current students have this issue? How many past students had this issue? How was the issue dealt with?

Questions / Comments:

A3 USING MOBILITY DEVICES SAFELY (40 min.)

Show Overhead (OH 3-3)



Objective 2:
Paraeducators will know basic guidelines for safely assisting a student who uses a mobility device (e.g., wheelchair).

OH 3-3

Read Aloud

Objective 2: Paraeducators will know basic guidelines for safely assisting a student who uses a mobility device (e.g., a wheelchair).

Mobility Quiz Show (5 min.)

1. Divide the class into two teams. Tell participants that they will be competing in the Mobility Quiz Show. Each question will require one of two answers: "forward" or "backwards." Each person will have to keep his or her eyes closed as each question is asked. To indicate an answer of "forward" point towards the front of the room and for an answer of "backward" point toward the back of the room.
2. Everyone will answer at the same time and the instructor will count each teams answers. The team with the most correct responses wins that round. Post the score on chart paper after each round.

The Questions:

a. When helping a person in a wheelchair down a curb, the wheelchair should be facing "forward" or "backward"? (correct answer is backward)
b. When helping a person in a wheelchair up a ramp, the wheelchair should be

facing "forward" or "backward"? (correct answer is forward)

c. When helping a person in a wheelchair up a curb, the wheelchair should be facing "forward" or "backward"? (the correct answer is forward)

d. When helping a person in a wheelchair down a long ramp or a steep ramp, the wheelchair should be facing "forward" or "backward"? (the correct answer is backward).

3. Add up the score and see who won.

Show Overhead (OH 3-4)

Guidelines for Assisting Students Who Use Wheelchairs

Transferring Students to and from their Wheelchairs

Wheelchair Mobility Safety Issues

Read Aloud

We will be focusing on two areas of guidelines for assisting students who use wheelchairs. The first area is guidelines for transferring students to and from their wheelchairs and the second is wheelchair mobility safety tips.

Show Overhead (OH 3-5)

Transferring Students to and from Their Wheelchairs

Let the student know

Minimize distance between transfer points

Lock brakes, deal with equipment or supports that may be in the way

Encourage the student to help

OH 3-5

Read Aloud

When transferring students to and from their wheelchairs it is important to let the student know the transfer will occur, to minimize the distance between transfer points, lock the wheelchair brake and position equipment or supports (e.g., lap tray, shoulder harness, wedges) so that the transfer can take place and to encourage the student to help as much as possible in the transfer.

Show Overhead (OH 3-6)

Wheelchair Mobility Safety Tips

Ask permission before moving the student's chair

Push students up ramps forward and go backward down steep or long ramps

Go backward down curbs and forward up curbs

On play fields tip the wheelchair back slightly onto the large wheels

OH 3-6

Read Aloud

Safety tips for wheelchair mobility include gaining permission from the student before moving his or her wheelchair, pushing the student forward up ramps and backward down long or steep ramps, going forward up curbs and backward down curbs and tipping the chair slightly backward onto the big wheels when moving on uneven surfaces such as playgrounds or ball fields.

Let's Use a Wheelchair Activity (45 min.)

Required readings Unit 3, Activity Sheet #5.

1. Tell participants to locate Activity Sheet # 5 in their Participant's Manual.
2. Assign groups of 3 to each wheelchair.
3. Tell participants that each team's task is to do as many of the items on the activity sheet as possible in the amount of time allotted and the constraints of the location (e.g., the building may not have an elevator). All activities are intended for the person to self-propel the chair except when the directions are to ask a partner to help.
4. Have each team keep a short journal of their journey. What was easy? What was difficult? Were any of the tasks impossible?
5. Allow 35 minutes for this part of the activity.
6. After each team has returned, ask the following questions.

Discussion Questions

Now that participants have experienced using a wheelchair for a short time, take some time to talk about your experiences (allow 10 minutes for discussion).

1. What tasks were you able to try?
2. Which were the most difficult? What made them difficult?
3. How did it feel to be in the wheelchair? Was it difficult to communicate with your team members?
4. When did you need help? Were you able to ask for help? How did that make you feel?

Activity Sheet #5

Wheelchair Activity Checklist

Each person assigned to a wheelchair should try to accomplish the following tasks. As a task is completed, check a box. Depending on where your class is located, not all tasks will be possible to perform.

Tasks	Participant Checkoff		
	Participant # 1	2	3
Maneuver yourself around the classroom (e.g., down the isles between desks, to the teacher's desk and back to your seat, to the pencil sharpener)	☐	☐	☐
Open the classroom door and go into the hallway without assistance	☐	☐	☐
Get a drink of water without assistance	☐	☐	☐
Go into the bathroom and enter a stall without assistance (you don't have to use the facilities!)	☐	☐	☐
Wash and dry your hands at the sink without assistance	☐	☐	☐
Go outside without assistance	☐	☐	☐
With a partners assistance, go up and down a curb	☐	☐	☐
With a partners assistance, go up and down a ramp	☐	☐	☐
Use an elevator without assistance	☐	☐	☐

A4 BREAK (15 min.)

A5 LIFTING, TRANSFERRING AND POSITIONING (35 min.)

Show Overhead (OH 3-7)

Objective 3:

Paraeducators will know basic guidelines for safely lifting, transferring, positioning and assisting the movement of students who require such assistance.

OH 3-7

Read Aloud

Objective 3: Paraeducators will know basic guidelines for safely lifting, transferring, positioning and assisting the movement of students who require such assistance.

Show Overhead (OH 3-8)

Handling Students with Orthopedic Disabilities

Goal of handling:

1. Elicit more normal muscle tone
2. Facilitate upright positions with normal posture
3. Facilitate normal movement patterns

OH 3-8

Read Aloud

The goals for handling students with orthopedic disabilities are to 1) elicit more normal muscle tone, 2) facilitate upright positions with normal posture, and 3) facilitate normal movement patterns.

Show Overhead (OH 3-9)

Normalizing Tone

High Tone
(spasticity or hypertonia)

Low Tone
(hypotonia or floppiness)

Environmental Factors
(e.g. over or under stimulation, pain, apprehension, high levels of noise)

Posture and Movement Factors
Slow rhythmic movement promotes relaxation
Rapid jerky movements stimulate muscle contractions

OH 3-9

Read Aloud

Students with orthopedic disabilities can have high muscle tone. This is sometimes called spasticity or hypertonia and results in the muscles being very tight. Some students with orthopedic disabilities have low tone. This is called hypotonia and results in the muscles being very loose or floppy. Some students have fluctuating tone so they are sometimes high toned and sometimes low toned. Environmental factors and posture and movement affect tone. Slow rhythmic movements promote relaxation while fast jerky movements stimulate muscle contractions. Anxiety, over stimulation, loud noises, under stimulation, and soft music can also affect tone.

Show Overhead (OH 3-10)

Facilitating Normal Postures and Movement

Upright positions and normal posture

Movements that maintain balance

Locomotion

Arm and hand movements

Oral movements for eating/speech

OH 3-10

Read Aloud

Things that facilitate normal postures and movement include: upright positions and normal postures; movements that maintain balance; locomotion; arm and hand movements; and oral movements for eating and speech.

Show Overhead (OH 3-11)

Positioning Students with Orthopedic Disabilities

Goals of positioning

1. Maintain normalized muscle tone
2. maintain alignment of body parts
3. maintain stabilization of body parts
4. Promote active participation in meaningful activity

OH 3-11

Read Aloud

The goals for positioning students with orthopedic disabilities are 1) maintaining normalized muscle tone, 2) maintain alignment of body parts, 3) maintaining stabilization of body parts, and 4) promoting active participation in meaningful activity.

Show Overhead (OH 3-12)

Lifting, Carrying and Transfers

Use Proper Body Mechanics

Move Equipment Close to the Student Prior to the Transfer

Allow the Student to Participate As Much As Possible

Ask for Help When Needed

ALWAYS SAFETY FIRST

OH 3-12

Read Aloud

When lifting, carrying or transferring a student there are several safety issues to keep in mind. 1) use proper body mechanics, 2) move equipment close to the student prior to the transfer, 3) allow the student to participate as much as possible, and 4) ask for help when you need it. Remember Safety First!

Positioning and Handling Activity (30 min.)

1. Arrange for a physical therapist to attend class and lead the class in several short hands-on positioning and handling activities. You should meet with the therapist ahead of time and ask him or her to outline a few hands-on activities that he or she could lead the class through for approximately 30 minutes. Whatever activities that you and the therapist feel comfortable doing with the class are fine. Some suggestions are listed below.

Sample Activities:

1. Two person lift.
2. Transfer from a wheelchair to the floor.
3. Transfer from the floor to a chair.
4. Activities for lowering muscle tone or increasing muscle tone.

Consider asking the therapist to model each activity with a volunteer or two, and then having everyone get into groups to practice each activity.

A6 KNOWLEDGE REVIEW (20 min.)

Knowledge Review Procedures

1. Provide accommodations that may affect participation in the *Knowledge Review* as needed.
2. Distribute the *Knowledge Reviews*.
3. Review the instructions for completion (which are found at the top of the *Knowledge Review*) including asking participants to put their names on their reviews.
4. Give participants 10 minutes to complete the *Knowledge Review* (plus additional time as needed to ensure that all participants have ample time to complete the review).
5. After all participants have completed the *Knowledge Review*, guide them (as a group) through correction of their own reviews using the following procedures:
   a) Ask for a volunteer to read the first question on the *Knowledge Review*.
   b) Next, ask for volunteers to answer that question (if no participant volunteers, provide the answer).
   c) Scoring:
   - If the participant's circled response is correct, nothing further is required.
   - If the participant's circled response is incorrect, the participant should mark a check to the left of the item number and underline the correct response.

EXAMPLE:

✓ 1. Paraeducators are:
   a) highly overpaid
   [✓ b)] babysitters
   c) important team members
   d) spies for the administration

   d) Explain why the answer is correct and ask the class if they have any further questions. All of the *Knowledge Review* items are found in the unit's required readings; therefore, you should be familiar with the required readings to answer participant questions.
   e) Repeat steps a-d for the remaining *Knowledge Review* items.
   f) Collect all the *Knowledge Reviews*.
   g) Follow the procedures for summarizing the *Knowledge Review* data.

A7 EVALUATION, PRACTICUM, AND PREPARATION FOR THE NEXT CLASS (10 min.)

Refer to the Participant's Manual

1. Turn briefly to the practicum section of the Participant's Manual and ask participants if they have any questions about their practicum activities. Remind participants to share the "Cooperating Teacher Practicum Summary" with their cooperating teachers.
2. Assign the reading for the next class.
3. Ask the participants to complete the unit evaluation form and collect it along with the *Knowledge Reviews*.

Note to the Instructor

Warning: Anxiety Reducer. The reading in this section are quite large. You may want to tell participants to use the readings as a resource and that they are not expected to read every word.

Knowledge Review Unit 3: Health and Safety

Name: ____________________

Date: ____________________

Site: ____________________

Instructor: ____________________

Directions: Read each question and circle the letter corresponding to the one item that you think is the best answer.

21. The best ways to prevent the spread of infections in the classroom are :
    a) all students and staff use proper hand washing procedures
    b) clean toys and materials with disinfectants before they are shared
    c) teach students to cover their mouths when they cough
    d) everyone should wear a surgical mask in school
    e) a and d only
    f) a, b, and c only

22. Safe procedures for administering first aid in the classroom include:
    a) wash hands before providing first aid
    b) avoid breathing or speaking over the wound
    c) Avoid wearing protective gloves if possible
    d) Wash hands after providing first aid
    e) a, c and d only
    f) a, b, and d only
    g) a and b only

23. If you are bitten by a student it is important to:
    a) cover the wound to prevent the growth of harmful bacteria
    b) carefully clean the wound with soap and water and irrigation
    c) leave the wound uncovered to prevent the growth of harmful bacteria
    d) a and b only
    e) b and c only

24. When a child with a severe health care issue (e.g., asthma, allergies to milk products or peanuts, seizure disorder) comes to school, a health plan should be created for the child that details specific procedures to be followed to insure the student's good health. If a child with a health plan attends your school, which of the following are true statements:
   a) all adults that work in the school and have contact with the child should be provided information and training related to the student's health plan
   b) only the school nurse and classroom teacher need to be aware of the student's health plan
   c) children with severe health concerns shouldn't attend school

25. Which of the following are important positioning concerns for performing an everyday task:
   a) sitting comfortably with feet flat on the floor
   b) assuming a position that matches the practical and movement demands of the task (e.g., standing at the sink to do dishes, sitting at a desk to write)
   c) washing hands prior to engaging in the task
   d) setting up materials for the task on the right side of the student's body, within easy reach

26. General principles of facilitating normal postures and movement patterns include:
   a) normalizing tone
   b) encouraging w-sitting at all time
   c) "breaking up" atypical postures
   d) presenting materials to the right side of the body
   e) all of the above
   f) a and c only

27. Prolonged sitting with little change of position can result in the following problems:
   a) hip and knee flexion contractures (ligaments shorten and limbs can not be straightened)
   b) circulatory problems beneath the hip bones
   c) pressure sores can develop
   d) all of the above
   e) a and b only

28. Which of the following are true:
    a) It is OK to push a child in his wheelchair without first asking him if he is ready to go
    b) Turning off a power wheelchair to keep a student from moving is like tying an ambulatory child to her chair
    c) A manual wheelchair is a mobility device not an exercise device
    d) A student in a wheelchair should always go to the front of the line
    e) Push a wheelchair forward up ramps and backwards down steep ramps
    f) a, b and d only
    g) b, c and e only

29. When lifting or transferring a student with physical disabilities, the following are true:
    a) the student should always be asked to help with the transfer (to the degree that she is able to help) even if it takes longer
    b) always arrange the environment (e.g., position the chair near the child, have straps or harnesses where you can reach them, have an adult helper ready to assist) prior to beginning the lift or transfer
    c) it is better to lift a small child rather than asking him to bear weight during a transfer
    d) all of the above
    e) a and b only

30. When a student has a seizure, you should always do the following:
    a) Stay with the student to monitor activity
    b) Position the student on her back
    d) Place a rolled up cloth in the student's mouth
    e) Give the student a drink of water during the seizure

21) f
22) f
23) e
24) a
25) b
26) f
27) d
28) g
29) e
30) a

Overhead Masters

Unit 3:
Health and Safety

Objective 1:

Paraeducators will be aware of general health and safety issues pertaining to students with severe disabilities.

OH 3-1

Health Care and Safety Issues Include:

Breathing Issues
Injury Due to Falling
Seizures
Choking
Weight Issues
Dental Care and Oral Hygiene
Toileting Issues
Disability Specific Issues
(e.g., heart problems, eating disorders, fragile bones)
Medication Side Effects

OH 3-2

Objective 2:

Paraeducators will know basic guidelines for safely assisting a student who uses a mobility device (e.g., wheelchair).

OH 3-3

Guidelines for Assisting Students Who Use Wheelchairs

Transferring Students to and from their Wheelchairs

Wheelchair Mobility Safety Issues

OH 3-4

Transferring Students to and from Their Wheelchair

Let the student know

Minimize distance between transfer points

Lock brakes, deal with equipment or supports that may be in the way

Encourage the student to help

OH 3-5

Wheelchair Mobility Safety Tips

Ask permission before moving the student's chair

Push students up ramps forward and go backward down steep or long ramps

Go backward down curbs and forward up curbs

On play fields tip the wheelchair back slightly onto the large wheels

OH 3-6

Objective 3:

Paraeducators will know basic guidelines for safely lifting, transferring, positioning and assisting the movement of students who require such assistance.

OH 3-7

Handling Students with Orthopedic Disabilities

Goal of handling:

1. Elicit more normal muscle tone
2. Facilitate upright positions with normal posture
3. Facilitate normal movement patterns

OH 3-8

Normalizing Tone

High Tone

(spasticity or hypertonia)

Low Tone

(hypotonia or floppiness)

Environmental Factors

(e.g., over or under stimulation, pain, apprehension, high levels of noise)

Posture and Movement Factors

Slow rhythmic movement promotes relaxation

Rapid jerky movements stimulate muscle contractions

OH 3-9

Facilitating Normal Postures and Movement

Upright positions and normal posture

Movements that maintain balance

Locomotion

Arm and hand movements

Oral movements for eating/speech

OH 3-10

Positioning Students with Orthopedic Disabilities

Goals of positioning

1. Maintain normalized muscle tone
2. maintain alignment of body parts
3. maintain stabilization of body parts
4. Promote active participation in meaningful activity

OH 3-11

Lifting, Carrying and Transfers

Use Proper Body Mechanics

Move Equipment Close to the Student Prior to the Transfer

Allow the Student to Participate As Much As Possible

Ask for Help When Needed

ALWAYS SAFETY FIRST

OH 3-12

Unit 4:

Personal Care

Timothy J. Fox

Instructor's Overview

Unit 4: Personal Care

Brief Description of Unit

This unit provides an overview of basic guidelines and techniques for safely and sensitively helping students who require such help to eat, drink, and use the bathroom. The unit also covers guidelines for assisting students with dressing and hygiene needs.

Hours of Instruction (In class format)

3 hours

Unit Objectives

Key: K = Knowledge, S = Skill (Knowledge objectives are addressed through reading and class activities; skill objectives are addressed through practicum activities)

1. Paraeducators will know basic guidelines for safely providing food and drink to students who requires such support. (K)
2. Paraeducators will know basic guidelines for assisting students who require assistance with their bowel and bladder needs. (K)
3. Paraeducators will know basic guidelines for assisting students who require assistance with dressing and hygiene needs. (K)
4. Paraeducators will demonstrate their knowledge assisting students with eating/drinking, bowel and bladder needs, dressing, and hygiene needs. (S)

Preparing for and Implementing the Unit

Required Readings (located only in the Participant's Manual)

Farlow, L. J. & Snell, M.E. (2000). Teaching basic self-care skills. In M. E. Snell & F. Brown, (Eds.). *Instruction of students with severe disabilities*. (5th ed.). (pp. 245 -290). Upper Saddle River, NJ: Prentice Hall.

Instructor Materials:

- overhead projector and screen
- Unit 4 overheads (must be copied onto transparencies)
- flip charts and markers
- masking tape
- nametags
- masking tape, oversized shirts and pants, shoes and socks, and toothpaste for activities
- *Knowledge Review* (Unit 4) enough copies for all participants in the class

Instructor Preparation for the Unit:

- Read the required readings prior to class (located only in the Participant's Manual).
- Gather all instructor materials.
- Consider the physical arrangement of the classroom to facilitate class activities.
- Review Practicum Requirements for Unit 4.

Participant Preparation for the Unit:

- Read the required readings **prior to class**
- Write two questions based on required readings for discussion in class that are relevant to you and your situation.
- Bring writing materials for note taking and activities to class.
- Review Practicum Requirements for Unit 4.
- Bring your Participant's Manual to class.

Instructor Implementation of the Unit:

The unit includes an agenda with timelines, a lesson plan, required readings, a *Knowledge Review*, and practicum requirements to be completed in the educational setting. The agenda is located at the beginning of each unit. The activities are interspersed within the lesson plan. The *Knowledge Review* is located at the end of each unit.

Practicum Requirements

This unit has four required practicum activities which are designed to be completed at the end of the course. The paraeducator and cooperating teacher will collaborate to complete those activities. A practicum checklist of the activities to be completed and skills to be observed is found at the end of the manual. In the event that a practicum requirement is not appropriate for a paraeducator's specific situation, an alternate activity may be substituted based on negotiation with the cooperating teacher. The negotiated requirement must be approved by the course instructor.

Evaluation of Participant Learning

Participants are evaluated in three ways: (1) *Knowledge Review* quiz, (2) attendance and participation in class activities, and (3) completion of practicum requirements. In order to facilitate learning of required readings, participants will take the *Knowledge Review* quiz at the end of each class session and will receive immediate feedback in class. Participants are encouraged to review questions before class so they can be aware of them during class. This can improve a participant's success on the quizzes .

Suggested Supplemental Resources

Books and Articles:

Campbell, P. H. (2000). Promoting participation in natural environments by accommodating motor disabilities. In M. E. Snell & F. Brown (Eds.) *Instruction of students with severe disabilities*. (5th ed.) (pp. 245 - 290). Upper Saddle River, NJ: Prentice-Hall.

Orelove, F. P., & Sobsey, D. (1996). Mealtime skills. In F. P. Orelove & D. Sobsey, (Eds.). *Educating children with multiple disabilities: A transdisciplinary approach*. (3rd ed.) (pp. 301-338). Baltimore: Paul H. Brookes.

Orelove, F. P., & Sobsey, D. (1996). Self care skills. In F. P. Orelove & D. Sobsey (Eds.). *Educating children with multiple disabilities: A transdisciplinary approach*. (3rd ed.) (pp. 339-378). Baltimore: Paul H. Brookes.

Web Sites:

Disability Related Products and Services
http: / / www.makoa.org / cmpyinfo.htm#assistive

SeniorStore.com
http: / / www.seniorstore.com / seniorstore / household---mobility-grooming
helpers.html

Videos:

Feeding & Swallowing: The impact of proper positioning and handling on feeding. (1990). The University of Nebraska Medical Center, Meyer Rehabilitation Institute, Media Resource Center, 600 South 42nd St., Omaha, Nebraska. (402) 559-7467

Feeding infants and young children with special needs. (1989). Distributed by Learner Managed Designs, Inc. Lawrence, Kansas, 66047. (917) 842-9088

Agenda

Unit 4: Personal Care (3 hours)

	Agenda Item	Time
A1	Introduction	10 min.
	Warm-up Activity (10 min.)	
A2	Guidelines for Provide Food and Drink	35min.
	Introduce Objective 1 (2 min.) Discuss General Guidelines (8 min.) Eating and Drinking Activity (25 min.)	
A3	Guidelines for Assisting with Bowl and Bladder Needs	35 min.
	Introduce Objective 2 (2 min.) Discuss General Guidelines (8 min.) Privacy Activity (25 min.)	
A4	BREAK	15 min.
A5	Guidelines for Assisting with Dressing and Hygiene	55 mins.
	Introduce Objective 3 (2 min.) Discuss General Guidelines (8 min.) Dressing Activity (45 min.)	
A6	*Knowledge Review*	20 min.
A7	Evaluation, Practicum and Preparation for the Next Class	10 min.

Lesson Plan Unit 4: Personal Care

A1 INTRODUCTION (15 min.)

Warm-up Activity (10 min.)

1. Welcome everyone to class.
2. Introduce the activity and its purpose: to help participants to prepare for class and to have fun.
3. Give directions for the greeting activity.

Activity procedure:

- Form the class into a circle. Tell the class that the name of this activity is called the "Circle of Laughter."
- Tell the class that one person will start by saying a nonsense word (e.g., "Tata," "Waa," "Eek") and shaking the hand of the person on their left.
- The second person says the nonsense word twice and shakes the hand of the person to the left. The third person says the word three times, etc.
- Continue going around the entire circle. If the group is small, have another person start with a new nonsense word and go again.

A2 ASSISTING WITH EATING AND DRINKING (35 min.)

Show Overhead (OH 4-1)

Objective 1:

Paraeducators will know basic guidelines for safely providing food and drink to students who requires such support.

OH 4-1

Read Aloud

Objective 1: Paraeducators will know basic guidelines for safely providing food and drink to students who requires such support.

Show Overhead (OH 4-2)

General Guidelines for Providing Food and Drink

- Mealtime should be a pleasant, enjoyable, social experience
- Students should be seated upright with head stable, in midline and with chin and jaw parallel with the floor
- Provide a variety of foods (allowing for student choice)

OH 4-2

Read Aloud

Some general guidelines for providing food and drink to students who require such support include:

- *Mealtime should be a pleasant, enjoyable, social experience*
- *Students should be seated upright with head stable, in midline and with chin and jaw parallel with the floor*
- *Provide a variety of foods (allowing for student choice)*

Show Overhead (OH 4-3)

- For students learning basic eating skills (e.g., suck, swallow, chew, lip closure) training and feedback from a professional (e.g., occupational therapist) is important to ensure the use of appropriate techniques and to prevent choking

For students who take a long time eating, limit instructional time to the first 1/3 or 1/2 of the meal and help with the rest

OH 4-3

Read Aloud

- *For students learning basic eating skills (e.g., suck, swallow, chew, lip closure) training and feedback form a professional (e.g., occupational therapist) is important to ensure the use of appropriate techniques and to prevent choking*
- *For students who take a long time eating, limit instructional time to the first 1/3 or 1/2 of the meal and help with the rest*

Providing Food and Drink Activity (25 min.)

Required readings Unit 4, Activity Sheet #6.

Materials: Each team should get a roll of masking tape, several sheets of paper, a blindfold, a container of cooked peas, a container of jello cubes, a cup of fresh water, a spoon, a plastic or paper plate and a dinner knife for each person.

1. Tell participants to locate Activity Sheet #6 in their Participant's manual.
2. Assign participants to work in teams of 2 or 3. Pass out a set of materials to each team.

3. Tell participants that each team's' task is to do as many of the items on the activity sheet as is possible in the amount of time allotted. They need not be done in order and one person can be trying one task while another person is trying another task. Each team can decide how to accomplish the items on the worksheet.

4. Have each team keep a short journal of the tasks they accomplish. What was easy? What was difficult? Were any of the tasks impossible? How much help did you need? How did it feel?

5. Allow 15 minutes for this part of the activity.

6. After each team has finished their tasks, ask the following questions.

Q&A Discussion Questions

Now that participants have experienced a variety of eating activities, take some time to talk about their experiences (allow 10 minutes for discussion).

1. What tasks were you able to try?

2. Which were the most difficult? What made them difficult?

3. Can you think of materials or aids that might have made the tasks easier (e.g., fork versus a spoon, built up handles)?

4. How did it feel to be fed? Was the experience enjoyable?

5. What can we do to making eating more enjoyable for your students?

Activity Sheet #6

Eating and Drinking Activity Checklist

Each person should try to accomplish the following tasks. As a task is completed, check a box.

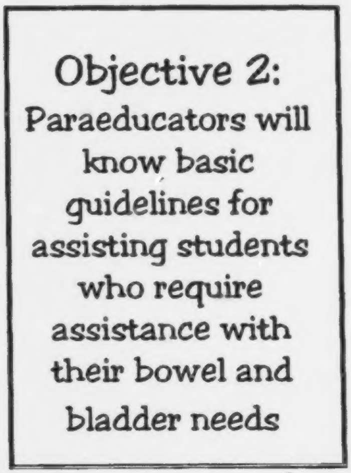
Prior to beginning the following tasks, each participant must first do the following:

1. Roll several pieces of paper into two tubes and tape a tube over each elbow to limit the use of your arms.
2. Tape each thumb and index finger together.
3. Tape your other three fingers together.

Tasks	**Participant Checkoff**		
Participant #	1	2	3
1. Eat peas with a knife.	☐	☐	☐
2. Eat jello cubes with a knife.	☐	☐	☐
3. Eat water with the spoon.	☐	☐	☐
4. Feed a partner peas from a spoon.	☐	☐	☐
5. Put a blindfold on your partner and feed him or her peas with a spoon.	☐	☐	☐
6. Give a partner a drink from a cup.	☐	☐	☐

A3 ASSISTING WITH BOWEL AND BLADDER NEEDS (35 min.)

Show Overhead (OH 4-4)



Objective 2:

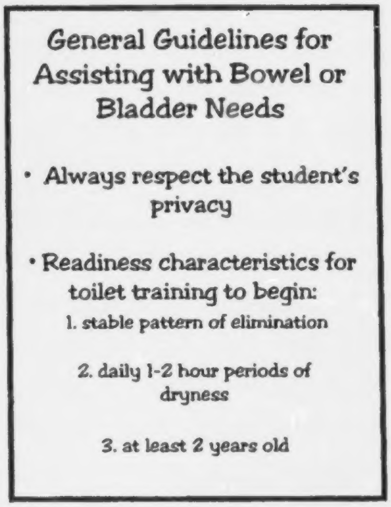
Paraeducators will know basic guidelines for assisting students who require assistance with their bowel and bladder needs

OH 4-4

Read Aloud

Objective 2: Paraeducators will know basic guidelines for assisting students who require assistance with their bowel and bladder needs.

Show Overhead (OH 4-5)



General Guidelines for Assisting with Bowel or Bladder Needs

- Always respect the student's privacy
- Readiness characteristics for toilet training to begin:
  1. stable pattern of elimination
  2. daily 1-2 hour periods of dryness
  3. at least 2 years old

OH 4-5

Read Aloud

General guidelines for assisting with bowel or bladder needs include:

- *Always respect the student's privacy*
- *Readiness characteristics for toilet training to begin are 1) stable pattern of elimination, 2) daily 1-2 hour periods of dryness and 3) at least 2 years old*

Show Overhead (OH 4-6)

- Change the student immediately following each accident
- Provide neutral interctions (neither punishing or reinforcing) following accidents
- Keep an elimination record during baseline and during toilet training
- Allow the student to wear diapers when approprite

OH 4-6

Read Aloud

- *Change the student immediately following each accident*
- *Provide neutral interactions (neither punishing or reinforcing) following accidents*
- *Keep elimination records during baseline and during toileting training*
- *Allow the student to wear diapers when appropriate*

Privacy Activity (25 min.)

Read Aloud

Privacy is an important issue for students with bowel or bladder control issues. In inclusive settings, opportunities for privacy for changing diapers or soiled clothing can be very limited. For the next few minutes, we are going to get into small groups and discuss this issue in relation to the students you work with. We will discuss how the issue of privacy is currently handled in the schools and programs in which you work and then we will brainstorm additional ideas for insuring our student's privacy.

Activity Directions:

1. Have the class break into groups of 4 or 5 (it would be better if they grouped with people they normally do not work with for this activity). Ask each group to:
    - a. Do a round-robin and share with each other how they currently address the issue of privacy in their particular program (allow 8 minutes).
    - b. Once everyone has had a chance to share, ask the groups to brainstorm (see note below for an explanation of brainstorming) additional ideas for address student's privacy while in inclusive settings (e.g., regular classrooms, lunch room, recess). Challenge each group to see which group can come up with the most usable ideas! Every group should shoot for at least 20 ideas (allow 7 minutes).
    - c. Ask each group to share how many ideas they were able to generate and one or two of their most creative ideas (10 minutes).

Note to Instructor:

Remember **brainstorming** involves a couple of important steps. 1) Allow each person a minute or two of think time. 2) Go around the group and have each person throw out an idea. 3) Ideas should be recorded publicly on chart paper. 4) When all ideas have been listed allow another minute or 2 of additional think time and ask if there are any more ideas. *Ideas should not be discussed or evaluated until all ideas are listed.*

A4 BREAK (15 min.)

A5 DRESSING AND HYGIENE (55 min.)

Show Overhead (OH 4-7)

Objective 3:

Paraeducators will know basic guidelines for assisting students who require assistance with dressing and hygiene needs.

OH 4-7

Read Aloud

Objective 2: Paraeducators will know basic guidelines for assisting students who require assistance with dressing and hygiene needs.

Show Overhead (OH 4-8)

General Guidelines for Assisting with Dressing and Hygiene Needs

- Always respect the student's privacy
- Teach grooming tasks under natural conditions
- Involve peers when appropriate
- Opportunities to observe others may speed learning

OH 4-8

Read Aloud

General guidelines for assisting with dressing and hygiene needs includes:

- *Always respect the student's privacy*
- *Teach grooming tasks under natural conditions*
- *Involve peers when appropriate*
- *Opportunities to observe other may speed learning*

Show Overhead (OH 4-9)

- **Use real materials as much as possible**
- **Teach skills with a variety of materials and settings**
- **Allow for student choice when appropriate (e.g., choice of clothing to wear)**

OH 4-9

Read Aloud

- *Use real materials as much as possible*
- *Teach skills with a variety of materials and settings*
- *Allow the student choices when appropriate (e.g., choice of clothing to wear)*

Dressing Activity (45 min.)

Required readings Unit 4, Activity Sheet #7.

Materials: Each team should get a roll of masking tape, several sheets of paper, a blindfold, several pieces of oversized clothing (button front shirt, pants, pullover shirt, coat, socks, tube of tooth paste,)

1. Tell participants to locate Activity Sheet #7 in their Participant's manual.
2. Assign participants to work in teams of 3. Pass out a set of materials to each team.
3. Tell participants that each team's task is to do as many of the items on the activity sheet as is possible in the amount of time allotted. They need not be done in order and one person can be trying one task while another person is trying another task. Each team can decide how to accomplish the items on the worksheet.
4. Have each team keep a short journal of the tasks they accomplish. What was easy? What was difficult? Were any of the tasks impossible? How much help did you need?
5. Allow 30 minutes for this part of the activity.
6. After each team has finished their tasks, ask the following questions.

Discussion Questions

Now that participants have experienced a variety of dressing activities under less than ideal conditions, take some time to talk about their experiences (allow 15 minutes for discussion).

1. What tasks were you able to try?
2. Which were the most difficult? What made them difficult?
3. Can you think of materials or aid that might have made the tasks easier (e.g., velcro closures instead of shoe laces)?
4. When did you need help? Were you able to ask for help? How did that make you feel?
5. Had privacy been an issue, how could we have dealt with it here?

Activity Sheet #7

Dressing Activity Checklist

Each person should try to accomplish the following tasks. As a task is completed, check a box.

Prior to beginning the following tasks, each participant must first do the following:

1. Roll several pieces of paper into two tubes and tape a tube over each elbow to limit the use of your arms.
2. Tape each thumb and index finger together.
3. Tape your other three fingers together.

Tasks	**Participant Checkoff** Participant # 1	2	3
Put on and button a button front shirt	☐	☐	☐
Put on a pair of pants	☐	☐	☐
Put on a sock and a shoe (tie the laces)	☐	☐	☐
Put on a pull-over shirt	☐	☐	☐
Put tooth paste on your finger and brush your teeth	☐	☐	☐
If you have a personal brush or makeup, brush your hair or apply makeup (e.g., lip stick, powder, eye liner).	☐	☐	☐

A6 KNOWLEDGE REVIEW (20 min.)

Knowledge Review Procedures

1. Provide accommodations that may affect participation in the *Knowledge Review* as needed.
2. Distribute the *Knowledge Reviews*.
3. Review the instructions for completion (which are found at the top of the *Knowledge Review*) including asking participants to put their names on their reviews.
4. Give participants 10 minutes to complete the *Knowledge Review* (plus additional time as needed to ensure that all participants have ample time to complete the review).
5. After all participants have completed the *Knowledge Review*, guide them (as a group) through correction of their own reviews using the following procedures:
    a) Ask for a volunteer to read the first question on the *Knowledge Review*.
    b) Next, ask for volunteers to answer that question (if no participant volunteers, provide the answer).
    c) Scoring:
    - If the participant's circled response is correct, nothing further is required.
    - If the participant's circled response is incorrect, the participant should mark a check to the left of the item number and underline the correct response.

EXAMPLE:

✔ 1. Paraeducators are:
a) highly overpaid
[✓ b)] babysitters
c) important team members
d) spies for the administration

d) Explain why the answer is correct and ask the class if they have any further questions. All of the *Knowledge Review* items are found in the unit's required readings; therefore, you should be familiar with the required readings to answer participant questions.
e) Repeat steps a-d for the remaining *Knowledge Review* items.
f) Collect all the *Knowledge Reviews*.
g) Follow the procedures for summarizing the *Knowledge Review* data.

A7 EVALUATION, PRACTICUM, AND PREPARATION FOR THE NEXT CLASS (10 min.)

Refer to the Participant's Manual

1. Turn briefly to the practicum section of the Participant's Manual and ask participants if they have any questions about their practicum activities. Remind participants to share the "Cooperating Teacher Practicum Summary" with their cooperating teachers.
2. Assign the reading for the next class.
3. Ask the participants to complete the unit evaluation form and collect it along with the *Knowledge Reviews.*

Knowledge Review Unit 4: Personal Care

Name: ____________________

Date: ____________________

Site: ____________________

Instructor: ____________________

Directions: Read each question and circle the letter corresponding to the one item that you think is the best answer.

31. Which of the following principles are important to consider when teaching self-care skills to students with severe disabilities ?
    a) Use partial participation carefully
    b) Involve peers whenever possible
    c) Teach self-care skills at home. School is not an appropriate location for teaching eating or toileting skills.
    d) Use procedures that are socially valid, age- and culture appropriate
    e) a, b and d only
    f) a, c and d only

32. Peers can be involved in self-care instruction in the following ways:
    a) task companion
    b) teacher
    c) partner
    d) model
    e) a and b only
    f) a, c, and d only

33. Continuous evaluation of partial participation is critical to determine when assistance can be faded or eliminated, to ensure that modifications result in:
    a. satisfactory outcomes for the student
    b. empowerment, rather than humiliation of the student
    c. the task being completed quickly
    d. a and b

34. Which of the following is the least effective strategy for teaching self-care skills:
   a. asking the student to follow written directions
   b. using forward or backward chaining
   c. providing a modeling for the student to copy
   d. using graduated guidance and decreases in assistance

35. Independent toileting includes:
   a. being aware of the need to go to the bathroom
   b. getting to and from the bathroom independently
   c. undressing and dressing skills associated with toileting
   d. clean up activities–wiping self, flushing toilet and washing hands
   e. all of the above
   f. a and b only

36. The following statements is true:
   a. students who do not self-initiate the toileting routine are considered independent at toileting
   b. students must wear training pants/underwear during the entire day while being toilet trained
   c. keeping a fairly stable eating and drinking pattern paired with reinforcement for correct toileting behavior helps students achieve toileting regulation
   d. toilet training programs are only effective if training first begins at home

37. Which of the following statements is about "rapid" methods of toilet training:
   a. rapid methods always work
   b. some rapid approaches include fluid increases that may be dangerous to the student
   c. rapid methods always involve punishing the student for toileting accidents
   d. rapid methods are usually done at school

38. Which of the following statements about eating instruction is true:
   a. students with severe disabilities should not be taught to self-feed
   b. when eating, the student's head should be stable, in midline, and with the chin and jaw nearly parallel to the floor
   c. drinking from a cup is always taught before drinking from a straw
   d. students with severe disabilities should always be fed liquefied foods to reduce the risk of choking

39. Recent research on teaching students with disabilities dressing and grooming skills has shown:
    a. the effectiveness of learning by observing others perform the skill
    b. spacing the learning trials across the day is more effective than teaching with massed trials in a concentrated, shorter period of time
    c. learning groom skills in natural conditions speeds learning
    d. increased opportunities for practice facilitates learning
    e. all of the above
    f. none of the above

40. Dressing and grooming routines provide numerous opportunities to develop other important skills such as:
    a. choice making
    b. communicating preferences
    c. academic skills
    d. expressions of creativity through selection of clothes, hair styles or other fashions
    e. initiating tasks, solving problems, staying with a task to completion
    f. all of the above
    g. a, b, d, and e only

31) e

32) f

33) d

34) a

35) e

36) c

37) b

38) b

39) e

40) g

Overhead Masters

Unit 4:
Personal Care

Objective 1:

Paraeducators will know basic guidelines for safely providing food and drink to students who requires such support.

OH 4-1

General Guidelines for Providing Food and Drink

- Mealtime should be a pleasant, enjoyable, social experience
- Students should be seated upright with head stable, in midline and with chin and jaw parallel with the floor
- Provide a variety of foods (allowing for student choice)

OH 4-2

- For students learning basic eating skills (e.g., suck, swallow, chew, lip closure) training and feedback from a professional (e.g., occupational therapist) is important to ensure the use of appropriate techniques and to prevent choking

For students who take a long time eating, limit instructional time to the first 1/3 or 1/2 of the meal and help with the rest

OH 4-3

Objective 2:

Paraeducators will know basic guidelines for assisting students who require assistance with their bowel and bladder needs

OH 4-4

General Guidelines for Assisting with Bowel or Bladder Needs

- Always respect the student's privacy
- Readiness characteristics for toilet training to begin:
  1. stable pattern of elimination
  2. daily 1-2 hour periods of dryness
  3. at least 2 years old

OH 4-5

- Change the student immediately following each accident

- Provide neutral interactions (neither punishing or reinforcing) following accidents

- Keep an elimination record during baseline and during toilet training

- Allow the student to wear diapers when appropriate

OH 4-6

Objective 3:

Paraeducators will know basic guidelines for assisting students who require assistance with dressing and hygiene needs.

OH 4-7

General Guidelines for Assisting with Dressing and Hygiene Needs

- Always respect the student's privacy
- Teach grooming tasks under natural conditions
- Involve peers when appropriate
- Opportunities to observe others may speed learning

OH 4-8

- Use real materials as much as possible
- Teach skills with a variety of materials and settings
- Allow for student choice when appropriate (e.g., choice of clothing to wear)

OH 4-9

Forms

Participant Registration Form

Supporting Students with Severe Disabilities: A Paraeducator Curriculum

Directions: Please fill in the following personal information. In order to participate in the *Supporting Students with Severe Disabilities: A Paraeducator Curriculum,* you must also have a signed commitment from a cooperating teacher at a school site to work with you on practicum requirements, and signed permission from the principal to work on practicum requirements. It is your responsibility to locate a cooperating teacher, provide him or her with the Cooperating Teacher Responsibility form , locate your principal, and obtain both their signatures on this registration form.

Participant personal information:

Name: ______________________________

Mailing address: ______________________________

____

____

Phone: ________________ Fax: ________________

E-mail: ______________________________

School name and address: ______________________________

____

____

Number of years experience as a paraeducator: ________________

Do you have any special needs (e.g., large-print materials, Braille, testing or seating accommodations) that must be addressed for you to participate in this course?

____

____

____

____

Participant Registration Form (continued)

***Cooperating Teacher Statement of Commitment:**

Name of the cooperating teacher for your practicum:

____

I have read the Cooperating Teacher Responsibility Form, and I agree to work with

____

(paraeducator's name)

as his/her practicum Cooperating Teacher for the

Supporting Students with Severe Disabilities: A Paraeducator Curriculum

____

(cooperating teacher signature)

Principal Sign off:

I, __________________________________ agree to

(principal's name)

have the above student complete his/her practicum requirements in my school.

____

(principal's signature)

*attached:

1. Practicum Requirements (to give to the cooperating teacher)
2. Cooperating Teacher Responsibility Form

Cooperating Teacher Responsibility Form

Supporting Students with Severe Disabilities: A Paraeducator Curriculum

As a cooperating teacher, you will be responsible for working with the paraeducator to ensure completion of the attached practicum requirements. There are a total of 4 practicum requirements (attached), which have been designed to be completed by the paraeducator in 10 hours on the job. Your responsibilities include:

- discussing each practicum requirement with the paraeducator;
- working with the paraeducator to develop a new practicum requirement to replace any practicum requirement that is not appropriate for the paraeducator's school situation;
- observing the paraeducator as he/she completes each practicum requirement;
- checking off each practicum requirement that the paraeducator completes;
- signing the practicum requirements when the paraeducator has completed all of them.

If you have any questions about the practicum requirements, you may contact the course instructor at:

____

____

____

____

____

(name, address, phone, and e-mail of the course instructor)

Practicum Requirement
Unit 1: Principles and Assumptions

Supporting Students with Severe Disabilities: A Paraeducator Curriculum

☐ 1. a) The paraeducator will select a student with a severe disability with the help of the cooperating teacher and will research the student's disability. This may be done on the internet, through library research or by interviewing someone that has information about the specific disability (e.g. a representative of the National Autism Society, a special educator or the student's parents).

What is the disability?

How does the disability affect communication development?

How does the disability affect physical development?

How does the disability affect vision, hearing, touch, smell or taste?

b) The paraeducator will answer the following questions about the disability:

A. Are potential causes of the disability (e.g., genetic, related to brain injury, associated with the mother's illness during pregnancy) known? If so what are they?

B. List at least two implications for the student's educational program.

C. List at least two implications for the student's life beyond school.

☐ 2. The paraeducator will meet with the cooperating teacher to select four assumptions from the readings and will discuss each assumption with the cooperating teacher so that the paraeducator can list below at least one example of how each assumption is evident within the student's educational program.

Assumption 1:

Assumption 2:

Assumption 3:

Assumption 4:

☐ 3. The paraeducator will meet with the cooperating teacher to review and identify ten best practices that are apparent when reviewing the student's educational program. The ten best practices identified should be listed below.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Practicum requirements have been completed:

Student: ______________________________

Cooperating Teacher: ______________________________

(signature)

Date completed: ______________________________

Practicum Requirement

Unit 2: Augmentative and Alternative Communication

Supporting Students with Severe Disabilities: A Paraeducator Curriculum

☐ 1. With the help of the cooperating teacher, special educator or speech- language pathologist, the paraeducator will select a student with a severe disability who also needs to augment her communication or to use an alternative mode of communication.

The paraeducator will answer the following questions about the selected student:

a. What is the student's primary mode of communication?

b. Does the student use other modes of communication? What are they?

c. Does the student communicate symbolically? Give an example.

☐ 2. The paraeducator will meet with the cooperating teacher, special educator or speech-language pathologist to discuss the student's current communication system. Following the discussion, the paraeducator will complete the following matrix.

List each major communicative function (e.g., accepts, rejects, asks questions, names items) used by the student. For each function list the various modes the student uses to communicate the function (e.g., vocal, gestural, tactual) and sample forms (e.g., says "I want", points to) that the student uses within each listed mode.

Communicative Functions	Various Modes Used by the Student	Sample Forms for Each Mode Listed

☐ 3. The paraeducator will meet with the cooperating teacher, special educator or speech language pathologist and review the "How Can We Help" activity sheet completed during class. (Note: If the activity sheet was completed for a different student during class, the paraeducator will have to complete a second sheet for the student selected for this practicum prior to meeting with the cooperating teacher). Each portion of the worksheet should be reviewed and revised as needed. When the worksheet is finalized, the paraeducator and the cooperating teacher, special educator or speech-language pathologist should select one idea from the worksheet that the paraeducator will implement with the student for

for five days. At the end of the five day period, the cooperating teacher, special educator or speech-language pathologist and the paraeducator should again meet and discuss how the ideas worked out. Following the discussion the paraeducator should answer the following questions:

a. What was the idea you tried?

b. Were you able to implement the idea? How hard was it?

c. How would you rate the idea in terms of how helpful it was to the student (circle one)?

1 = not helpful　　2 = neutral　　3 = helpful

Why do you feel this way?

d. Does the team think it is a good idea continue to implementing this idea with the student? Why or Why not?

Practicum requirements have been completed:

Student: ____________________

Cooperating Teacher: ____________________

(signature)

Date completed: ____________________

Practicum Requirement
Unit 3: Health and Safety

Supporting Students with Severe Disabilities: A Paraeducator Curriculum

☐ 1. With the help of the cooperating teacher, special educator or related services provider (e.g., OT, PT) the paraeducator will select a student with a severe disability who uses a mobility device (e.g., a wheelchair) and needs assistance with mobility, movement, positioning and handling and transferring to and from the mobility device.

The paraeducator will answer the following questions about the selected student:

a. Describe the student in terms of his or her needs for mobility, positioning and handling and transfers.

b. Does the student have health or safety issues? Describe them.

c. Does the student take medications? What are the potential side effects?

☐ 2. The paraeducator will complete the following worksheet:

Handling/Positioning Needs for My Student (check those that Apply)	My Issues/Questions
Handling Students with Orthopedic Disabilities Normalizing Tone High tone (spasticity or hypertonia) ☐ Low tone (hypotonia or floppiness) ☐ Facilitating Normal Postures and Movement Upright positions and normal posture ☐ Movements that maintain balance ☐ Locomotion ☐ Arm and hand movements ☐ Oral movements for eating/speech ☐	
Positioning Students with Orthopedic Disabilities Positioning in adapted chairs ☐ Alternative positions (sidelying, prone) ☐ Using braces, splints and casts ☐	
Lifting, Carrying and Transfers Supported transfers ☐ lifting and carrying ☐	

My Priority Issue or Question: ______________________________

____

____

____

____

____

What Resources Can Help Me To Address This Issue or Question:

Access To Knowledge Or Information ☐

Hands On Training ☐

A Person To Help Me When I Need It ☐

My Team To Make A Plan To Address The Issue So I Know I Am Doing What I Am Supposed To Do ☐

Other: ____

Who Can Help?

My Supervisor ☐

A Special Educator ☐

Occupational or Physical Therapist ☐

The Student Parents ☐

My Classroom Teacher ☐

My Team ☐

Other: ____

The paraeducator will meet with the cooperating teacher, special educator or related services provider (e.g., OT, PT) to discuss the questions or concerns generated by the paraeducator in class during Activity #4 (Health and Safety Activity) and the positioning and handling worksheet on the previous pages. Each portion of each worksheet should be reviewed and revised as needed. When the worksheets are finalized, the paraeducator and the cooperating teacher should select one area (e.g., one health issue such as seizures or choking or one positioning issue such as normalizing tone or assisting with movement) to focus on for the following practicum assignment. The area selected should have relevance to the student and be one that the paraeducator had questions or concerns about.

☐ 3. The paraeducator should answer the following questions. In order to answer the questions the paraeducator may have to do additional interviews with school personnel or do periodic classroom observations.

a. What was the area you selected? Why did you select this area?

b. Does the student have a plan for addressing this area developed by the team? If so, briefly summarize the plan.

Practicum requirements have been completed:

Student: ______________________

Cooperating Teacher: ______________________
(signature)

Date completed: ______________________

Practicum Requirement
Unit 4: Personal Care

☐ 1. With the help of the cooperating teacher, the paraeducator will select a student with a severe disability who has needs in the area of personal care (eating, drinking, toileting, dressing or hygiene).

The paraeducator will answer the following questions about the selected student:

a. Describe the student in terms of the support needed in the area of eating and drinking.

b. Describe the student in terms of the support needed in the area of toileting.

c. Describe the student in terms of the support needed in the areas of dressing or hygiene.

☐ 2. The paraeducator will meet with the cooperating teacher to complete the following information sheet about the student's learning needs in the area of eating and drinking.

Information Sheet

Providing Food and Drink to My Student (check those that Apply)	**My Issues/Questions**
The Student I Work With is Learning:	
Basic Eating Skills:	
Sucking ☐	
Swallowing ☐	
Chewing ☐	
Lip Closure ☐	
Finger Feeding ☐	
Eating a Variety of Textures ☐	
Utensil Use	
Eating from a spoon (when fed) ☐	
Using a spoon (scoop, spoon to mouth, return spoon to plate) ☐	
Using a Fork ☐	
Using a Knife ☐	
Drinking Skills	
Sucking through a straw ☐	
Drinking from a cup (when fed) ☐	
Using a cup (pick up, drink, put down) ☐	

☐ 3. After reviewing the students learning needs, the paraeducator should identify a concern that he or she has concerning providing food and drink to the student. With the cooperating teacher the paraeducator should identify possible resources and people the paraeducator may need to help meet the student's needs.

My Main Concern is: ____________________

____

____

____

What Resources Can Help Me To Address My Concerns:

Access To Knowledge Or Information ☐

Hands On Training ☐

A Person To Help Me When I Need It ☐

My Team To Make A Plan To Address The Concern ☐

Other: ____________________

Who Can Help?

My Supervisor ☐

A Special Educator ☐

Occupational or Physical Therapist ☐

The Student Parents ☐

My Classroom Teacher ☐

My Team ☐

Were you able to address your concern utilizing the resources or persons identified with the cooperating teacher? If so, how did it work out? If not, why not?

☐ 4. The paraeducator will meet with the cooperating teacher to discuss the students needs for privacy when dressing/undressing at school and to select a time of day when privacy might be an issue (e.g., using the public bath room, needing to be changed after voiding, changing for gym class) for the student.

Describe:

Observe the student on 3 occasions during the selected time. Was privacy an issue? Why or why not.

Practicum requirements have been completed:

Student: ____________________

Cooperating Teacher: ____________________

(signature)

Date completed: ____________________

Participant Course Information

Supporting Students with Severe Disabilities: A Paraeducator Curriculum

Dear Course Participant,
The course you have registered for, *Supporting Students with Severe Disabilities: A Paraeducator Curriculum*, will meet on the following schedule:

Dates: ______________________

Times: ______________________

Location: ______________________

The course instructor is: ______________________

The instructor can be contacted at: ______________________

Phone: __________ Fax: __________ E-mail: __________

Address: ______________________

You must obtain a Participant's Manual so you can complete Unit 1 readings **prior to the first class.** You can obtain your Participant's Manual by one of these two options.

1. Instructor's Plan: ______________________
____

OR

2. By contacting:

National Clearinghouse of Rehabilitation Training Materials (NCRTM)
Oklahoma State University
5202 Richmond Hill Drive
Stillwater, OK 74078-4080
800-223-5219 (toll free)
405-624-7650 (phone)
405-624-3156 (TDD)
405-624-0695 (fax)
www.nchrtm.okstate.edu

REQUEST: PARTICIPANT MANUAL 650.051B
Supporting Students with Severe Disabilities: A Paraeducator Curriculum
This manual is available on a cost-recovery basis.

Unit 1 Instructor Evaluation

Supporting Students with Severe Disabilities: A Paraeducator Curriculum

Unit 1: Principles and Assumptions
Instructor name: ____________________
Date: ____________________

Directions: Please check the box next to the statement that best reflects your opinion regarding the following questions.

1. How **important** were the objectives for this unit?
   ☐ very important
   ☐ important
   ☐ somewhat important
   ☐ not important

2. How **relevant** were the required readings for this unit?
   ☐ very relevant
   ☐ relevant
   ☐ somewhat relevant
   ☐ not relevant

3. How **understandable** were the required readings for this unit?
   ☐ very understandable
   ☐ understandable
   ☐ somewhat understandable
   ☐ not understandable

4. How **helpful** was the lesson plan for this unit?
   ☐ very helpful
   ☐ helpful
   ☐ somewhat helpful
   ☐ not helpful

5. How **understandable** was the lesson plan for this unit?
   ☐ very understandable
   ☐ understandable
   ☐ somewhat understandable
   ☐ not understandable

6. How **useful** were the activities for this unit?
   - ☐ very useful
   - ☐ useful
   - ☐ somewhat useful
   - ☐ not useful

7. How **understandable** were the activities for this unit?
   - ☐ very understandable
   - ☐ understandable
   - ☐ somewhat understandable
   - ☐ not understandable

8. How would you rate the **quality** of the materials for this unit?
   - ☐ very high quality
   - ☐ high quality
   - ☐ fair quality
   - ☐ poor quality

9. How **relevant** were the practicum requirements for this unit?
   - ☐ very relevant
   - ☐ relevant
   - ☐ somewhat relevant
   - ☐ not relevant

10. How **understandable** were the practicum requirements for this unit?
    - ☐ very understandable
    - ☐ understandable
    - ☐ somewhat understandable
    - ☐ not understandable

11. Please use the rest of this page to make suggestions for improving the objectives, required readings, activities, and practicum requirements for this unit.

Unit 2 Instructor Evaluation

Supporting Students with Severe Disabilities: A Paraeducator Curriculum

Unit 2: Augmentative and Alternative Communication
Instructor name: ______________________
Date: ______________________

Directions: Please check the box next to the statement that best reflects your opinion regarding the following questions.

1. How **important** were the objectives for this unit?
   ☐ very important
   ☐ important
   ☐ somewhat important
   ☐ not important

2. How **relevant** were the required readings for this unit?
   ☐ very relevant
   ☐ relevant
   ☐ somewhat relevant
   ☐ not relevant

3. How **understandable** were the required readings for this unit?
   ☐ very understandable
   ☐ understandable
   ☐ somewhat understandable
   ☐ not understandable

4. How **helpful** was the lesson plan for this unit?
   ☐ very helpful
   ☐ helpful
   ☐ somewhat helpful
   ☐ not helpful

5. How **understandable** was the lesson plan for this unit?
   ☐ very understandable
   ☐ understandable
   ☐ somewhat understandable
   ☐ not understandable

6. How **useful** were the activities for this unit?
☐ very useful
☐ useful
☐ somewhat useful
☐ not useful

7. How **understandable** were the activities for this unit?
☐ very understandable
☐ understandable
☐ somewhat understandable
☐ not understandable

8. How would you rate the **quality** of the materials for this unit?
☐ very high quality
☐ high quality
☐ fair quality
☐ poor quality

9. How **relevant** were the practicum requirements for this unit?
☐ very relevant
☐ relevant
☐ somewhat relevant
☐ not relevant

10. How **understandable** were the practicum requirements for this unit?
☐ very understandable
☐ understandable
☐ somewhat understandable
☐ not understandable

11. Please use the rest of this page to make suggestions for improving the objectives, required readings, activities, and practicum requirements for this unit.

Unit 3 Instructor Evaluation

Supporting Students with Severe Disabilities: A Paraeducator Curriculum

Unit 3: Health and Safety
Instructor name: ______________________
Date: ______________________

Directions: Please check the box next to the statement that best reflects your opinion regarding the following questions.

1. How **important** were the objectives for this unit?
   ☐ very important
   ☐ important
   ☐ somewhat important
   ☐ not important

2. How **relevant** were the required readings for this unit?
   ☐ very relevant
   ☐ relevant
   ☐ somewhat relevant
   ☐ not relevant

3. How **understandable** were the required readings for this unit?
   ☐ very understandable
   ☐ understandable
   ☐ somewhat understandable
   ☐ not understandable

4. How **helpful** was the lesson plan for this unit?
   ☐ very helpful
   ☐ helpful
   ☐ somewhat helpful
   ☐ not helpful

5. How **understandable** was the lesson plan for this unit?
   ☐ very understandable
   ☐ understandable
   ☐ somewhat understandable
   ☐ not understandable

6. How **useful** were the activities for this unit?
☐ very useful
☐ useful
☐ somewhat useful
☐ not useful

7. How **understandable** were the activities for this unit?
☐ very understandable
☐ understandable
☐ somewhat understandable
☐ not understandable

8. How would you rate the **quality** of the materials for this unit?
☐ very high quality
☐ high quality
☐ fair quality
☐ poor quality

9. How **relevant** were the practicum requirements for this unit?
☐ very relevant
☐ relevant
☐ somewhat relevant
☐ not relevant

10. How **understandable** were the practicum requirements for this unit?
☐ very understandable
☐ understandable
☐ somewhat understandable
☐ not understandable

11. Please use the rest of this page to make suggestions for improving the objectives, required readings, activities, and practicum requirements for this unit.

Unit 4 Instructor Evaluation

Supporting Students with Severe Disabilities: A Paraeducator Curriculum

Unit 4: Personal Care

Instructor name: ______________________________

Date: ______________________________

Directions: Please check the box next to the statement that best reflects your opinion regarding the following questions.

1. How **important** were the objectives for this unit?
   ☐ very important
   ☐ important
   ☐ somewhat important
   ☐ not important

2. How **relevant** were the required readings for this unit?
   ☐ very relevant
   ☐ relevant
   ☐ somewhat relevant
   ☐ not relevant

3. How **understandable** were the required readings for this unit?
   ☐ very understandable
   ☐ understandable
   ☐ somewhat understandable
   ☐ not understandable

4. How **helpful** was the lesson plan for this unit?
   ☐ very helpful
   ☐ helpful
   ☐ somewhat helpful
   ☐ not helpful

5. How **understandable** was the lesson plan for this unit?
   ☐ very understandable
   ☐ understandable
   ☐ somewhat understandable
   ☐ not understandable

6. How **useful** were the activities for this unit?
☐ very useful
☐ useful
☐ somewhat useful
☐ not useful

7. How **understandable** were the activities for this unit?
☐ very understandable
☐ understandable
☐ somewhat understandable
☐ not understandable

8. How would you rate the **quality** of the materials for this unit?
☐ very high quality
☐ high quality
☐ fair quality
☐ poor quality

9. How **relevant** were the practicum requirements for this unit?
☐ very relevant
☐ relevant
☐ somewhat relevant
☐ not relevant

10. How **understandable** were the practicum requirements for this unit?
☐ very understandable
☐ understandable
☐ somewhat understandable
☐ not understandable

11. Please use the rest of this page to make suggestions for improving the objectives, required readings, activities, and practicum requirements for this unit.

Certificate of Completion

for

Supporting Students with Severe Disabilities: A Paraeducator Curriculum

This certifies that ______________________________ has completed all of

the required class activities, *Knowledge Reviews,* and practicum requirements

for Supporting Students with Severe Disabilities: A Paraeducator Curriculum given by

____
(school/institution providing training)

____
(dates)

____
(Instructor's signature)

650.051B

Supporting Students with Severe Disabilities

A Paraeducator Curriculum

Participant's Manual

Timothy Fox

Field Test Version 2.0 March 2002 Feedback is requested

EC 309356

All readings included in this manual for the course, *Supporting Students with Severe Disabilities: A Paraeducator Curriculum,* have been reprinted with the written permission of the copyright holder.

IDEAs that Work
U.S. Office of Special Education Programs

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Supporting Students with Severe Disabilities: A Paraeducator Curriculum

Participant's Manual

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Table of Contents

- Introduction 1
- How to Use This Participant's Manual 7
- Unit 1: Principles and Assumptions 10
  - Participant's Overview 11
  - Required Readings 14
  - Activity Sheets 31
  - Unit 1 Forms 33
- Unit 2: Augmentative and Alternative Communication 42
  - Participant's Overview 43
  - Required Readings 46
  - Activity Sheets 67
  - Unit 2 Forms 69
- Unit 3: Health and Safety 79
  - Participant's Overview 80
  - Required Readings 83
  - Activity Sheets 182
  - Unit 3 Forms 186

- Unit 4: Personal Care 198

  Participant's Overview 199
  Required Readings 202
  Activity Sheets 253
  Unit 4 Forms 256

- Practicum Requirement Forms 267

Introduction

Overall Purpose of this Training Curriculum

Students with severe disabilities were afforded the right to a free, appropriate public education in 1975 through the passage of Public Law 94-142. In the mid-1980s, children and youth with severe disabilities began gaining access to regular education classes in their neighborhood schools. This curriculum was developed with the recognition that paraeducators interact with students with severe disabilities in a variety of educational and community settings. Yet, due to the diverse nature of students with severe disabilities, paraeducators often find themselves ill prepared to interact with students who may be non-verbal, have severe hearing, visual, motor and medical challenges as well as learning and/or behavioral challenges.

> Students with severe disabilities are those students whose disabilities are so severe that they will require ongoing, extensive support in more than one major life activity in order to participate in integrated community settings and enjoy the quality of life available to people with fewer or no disabilities.

The *Individuals with Disabilities Education Act Amendments of 1997* [(IDEA), 20 U.S.C. 1400 et seq.] require that state education agencies "establish and maintain standards" to ensure that paraprofessionals "used to assist in the provision of special education and related services to children with disabilities are appropriately and adequately prepared, trained, and supervised in accordance with State law, regulations, or written policy" [20 U.S.C. 1412 § 612(15)]. In other words, IDEA requires states to ensure that "qualified personnel" are available to assist in educating students who have disabilities; this includes paraprofessional staff. IDEA also requires local educational agencies (LEAs) to ensure that all personnel working with students with disabilities are "appropriately and adequately prepared" [20 U.S.C. 1412 § 613 (a) (3)].

In an effort to address certain aspects of this requirement, this curriculum provides training content, formats, and a framework to ensure that paraprofessionals (referred to here as paraeducators) have the basic knowledge and skills necessary to contribute to the education of students with severe disabilities in *inclusive* educational settings. Paraeducators have important input into the process and are often responsible for modeling and reinforcing new skills, implementing communication, motor and sensory strategies, and managing the students physical and social needs. In this context, the paraeducator is a team member who functions under the direction of qualified teachers or special educators. The professional staff is responsible for decision-making and planning to insure that the student's needs are being met.

The primary focus of this curriculum is to impart general information about students with severe disabilities. Topics include general principles and assumptions concerning the education of students with severe disabilities and general issues in the areas of communication, personal care and health/safety. This curriculum does not attempt to include every conceivable thing a paraeducator or supervisor might need to know about students with severe disabilities in order to be effective. Any such training program should be considered as one part of a more comprehensive plan to recruit, hire, orient, train, and supervise paraeducators on an ongoing basis.

This course is designed to be taken after successful completion of the prerequisite entry-level training course *Paraeducator Entry-Level Training for Supporting Students with Disabilities*. Effective approaches to educating students with severe disabilities are grounded in a framework of collaboration among professionals, support staff, students, and family members; the development of informal supports; family and cultural sensitivity; and the roles of paraeducators and other qualified professionals.

Philosophical Foundation

This curriculum emphasizes the unique nature of the paraeducator "assisting" in implementing instruction and support strategies designed by teachers, special educators and related service providers. We believe that assessment, curricular design and adaptation, and primary instruction are roles of certified educators, special educators, and related service personnel. Therefore, an important philosophical tenet is that we do not expect a paraeducator to be "the exclusive or primary teacher" for students with severe disabilities. Students with severe disabilities deserve to be educated by certified, qualified teachers in their neighborhood schools, just like students without disabilities. At the same time we recognize that paraeducators play a vital support role with these students — their work should be recognized and appreciated.

In addition, we have come to recognize the wide array of roles and responsibilities that paraeducators are being asked to fulfill and question whether they can continue to be expected to meet this ever expanding set of increasingly complex demands without adequate training, support, or compensation. At times paraeducators are unfairly expected to do the work of a teacher — in such cases we consider whether training is really the answer or whether other models of service delivery (e.g., hiring more qualified teachers; differentiated teacher roles) may be more appropriate. Third, we have been guided by the principles presented in the article, *Developing a Shared Understanding: Paraeducator Supports for Students with Disabilities in General Education* (Giangreco et al., 1999).

Intended Audience

This curriculum is intended for use by paraeducators who work with students with severe disabilities. It is meant to address the initial information/training needs of paraeducators and their cooperating teachers working with students across the age span and is generically applicable for those working with students who have various types of severe disabilities. The curriculum is primarily geared toward use in general education schools and classrooms, although the content is also applicable to community or employment settings where people with disabilities are included with people who do not have disabilities. The required readings and varied formats contribute to its potential use in urban, suburban, rural, and remote areas. But, like any training program, it should be tailored to meet local conditions. Because this program is designed for national dissemination, specific state or local regulations, policies, and procedures are not included. The instructor or sponsoring agency should try to supplement the program with any necessary information specific to local situations.

Formats of Training

The needs of school districts to train paraeducators vary. Therefore, training formats must be flexible. The content in this curriculum is designed to be offered in different formats to meet differing needs. Each format includes a mechanism for evaluation and a practicum component. Each can also be adapted to be offered for continuing education or university credit. The traditional course format and formats relying on technology are discussed below .

Course Format

The traditional course format provides required readings and materials for a trainer, face-to-face sessions with participants, written materials and traditional methods of interaction (e.g., group discussions, presentations, group and individual activities). This format can be provided in various ways. It can be delivered regionally or within a single district or school. It can be delivered in an intensive (e.g., full-week) format or spread over a number of weeks. The program is not dependent on outside trainers and is appropriate for use by qualified school personnel (e.g., special educators; staff development specialists).

Though we have designed all our courses to be completed with 12 to 18 hours of instruction and 10-12 hours of practicum, you may decide to extend these times to offer additional depth to the experience. This may provide additional time to involve guest instructors in your class, such as parents who have children with disabilities, self-advocates, or professionals who have special expertise related to the unit of study. This option can be offered to groups ranging from 5 to 25 participants by local school personnel. Depending on the delivery format selected, local trainers may be asked to do this training within the context of their existing job responsibilities or may be compensated for additional time spent beyond their contracted duties.

Formats Relying on Technology

Project staff are exploring the use of technology (e.g. interactive video, internet courses, and CD-ROM) as an option for offering courses to paraeducators, teachers and special educators who lack access to traditional courses because of issues such as scheduling conflicts or transportation barriers. As information becomes available about these options it will be posted on our web site. Our web site is: **http://www. uvm.edu/~cdci/paraprep/**

Basis for the Course

A number of foundational sources informed the development of this curriculum. They include:

- a review and summary of existing paraeducator curricula;
- a review of published paraeducator literature from 1990 to 2001 (both data based and non-data based);
- a review of paraeducator/paraprofessional Dissertation Abstracts from 1992 to 1999;
- a national survey of perceived training needs and priorities for paraeducators and their mentors completed by a variety of stakeholder groups (e.g., parents, paraeducators, special educators, classroom teachers, related services providers, state education staff, school administrators);
- in-depth data (e.g., questionnaires, interviews, document reviews, observations) generated from a model demonstration project that examined paraeducators issues in inclusive settings in Vermont.

Course Content and Organization

This mini-course is a part of a series of courses for training paraeducators. Mini-courses follow a six-unit course entitled *Paraeducator Entry-Level Training for Supporting Students with Disabilities*. This course consists of the following four units of study, each designed to be completed in a 3-hour class for a total of 12 classroom hours.

Unit 1	Principles and Assumptions
Unit 2	Augmentative and Alternative Communication
Unit 3	Health and Safety
Unit 4	Personal Care

Practicum Requirements

Ten hours of practicum activities are included in the mini-course and are appropriate for implementation within a general education setting. The practicum requires that paraeducators conduct these activities under the direction of an educator willing to support the participant and provide feedback on the activities. Practicum activities and evaluation forms are provided as a part of the training package. Participants also have the option of negotiating alternative practicum requirements with their cooperating teacher.

Other Content Training for Paraeducators

There are two other mini-courses within this series. Each consists of 12 hours of classroom instruction and 10 hours of practicum.

Mini-Course 1	Paraeducator Entry-Level Training
Mini-Course 2	Supporting Students with Challenging Behavior: A Paraeducator Curriculum

Check our web site: http//www.uvm.edu/~cdci/paraprep/ for information on the status of these courses and for links to courses offered on-line by other organizations disseminating training materials.

Limitations of this Training Series

Our experience tells us that when people hear about a new training program for paraeducators, they become very interested because the need is obvious and extensive. While this and other training programs can certainly assist schools in developing a more qualified work force, they are not like magic wands that once passed over them will transform untrained assistants into highly competent teachers. In fact, this curriculum intentionally is not designed to prepare paraeducators to become teachers, nor is it geared to teach paraeducators how to engage in planning that is the responsibility of certified educators. Likewise, it is not intended to substitute for an individual district's ongoing orientation, on-the-job training, and supervision of paraeducators. It is merely one piece of the paraeducator training puzzle.

No training program will solve all the problems related to service delivery, instruction, classroom management, and other important issues affecting student learning. This training program, like many programs, is brief and therefore focuses on the most essential learning outcomes needed by paraeducators. However, it does not replace the need for local training in specific skills required in specific settings (e.g., in a specific reading or mathematics program; information that is uniquely associated with individual students). In addition, it does not substitute for the daily and ongoing on-the-job support and mentoring that can only be provided by the local school personnel.

Additional Training Resources

If you want to go further into depth, supplemental resources are listed at the end of each unit. These include references for books and articles, videos, and web addresses of interest. Other training resources and updated course activities are also listed at this project's web site at:

- **http://www.uvm.edu/~cdci/paraprep/**

Or, you may visit our companion web site at:

- **http://www.uvm.edu/~cdci/parasupport/**

References

Individuals with Disabilities Education Act Amendments of 1997. Pub. L. No. 105-17, Section 20, 111 Stat. 37 (1997).

Giangreco, M.F., CichoskiKelly E., Backus, L., Edelman, S., Broer, S., Tucker, P., CichoskiKelly, C., & Spinney, P. (March 1999). Developing a shared understanding: Paraeducator supports for students with disabilities in general education. *TASH Newsletter, 25* (1), 21-23.

How to Use this Participant's Manual

This manual includes all of the information the participant needs to take the mini-course *Supporting Students with Severe Disabilities: A Paraeducator Curriculum.* The first step recommended to the participant is to read the manual in order to become familiar with it. This section is designed to facilitate this process.

The course is divided into four units, and each unit contains:
- An overview
- Required Readings
- Activity Sheets
- *Knowledge Review* Questions
- Cooperating Teacher Practicum Summary
- Unit Evaluation Form

The Cooperating Teacher Practicum Summary provides a brief summary of the unit and its practicum requirements. Copy and give these to your cooperating teacher. For your own use, a listing of practicum requirements for each unit are located in the last section of the manual.

How to Use the Overviews

Use overviews to prepare for a specific class. Each overview contains:
- a brief description of the unit
- the number of hours of instruction
- the unit objectives, identified as knowledge (K) or skill (S) objectives
- participant preparation needed (e.g., read the required readings)
- practicum requirement overview
- evaluation of participant learning
- suggested supplemental resources (provided for participants who wish to have more information than what is provided in the required readings.)

How to Use the Required Readings

- Each unit of the curriculum contains required readings that include information about the unit topic.
- Bring your copy of this manual to each class. Certain class activities will require you to refer to required readings in this manual.
- Required readings must be completed **prior to** the class for that unit. Class activities and *Knowledge Review* questions are based on information in the required readings.

- Prepare at least two questions based on the required readings for each unit and bring those questions to class.

How to Use the Activity Sheets

- This manual contains activity sheets for each unit, that correspond to the lesson activities in the Instructor's Manual.
- You **do not** need to review the activity sheets before class, since the activities will be completed in class.
- Bring this manual to class in order to complete the activity sheets during class.

Information About the *Knowledge Review*

- The *Knowledge Review* for each unit contains ten questions that are based on information in the required readings of that unit.
- You are encouraged to use the questions as a study guide as you prepare for the class (e.g., review questions as you read the required readings).
- The instructor will provide accommodations for participants that may affect their participation in the *Knowledge Review* as needed. It is your responsibility to notify the instructor if you need special accommodations (e.g., extra time to complete *Knowledge Review*, a seat in the front of class, etc.).
- The instructor will distribute the *Knowledge Review* to all participants at the end of each class.
- After all participants have completed the *Knowledge Review*, the class will review the questions and their answers. At that time, you are responsible for asking about any questions that you did not answer correctly.
- The *Knowledge Review* will be used as part of your evaluation for this course.

How to Use the Practicum Requirement Checklists

- Review the practicum requirements for each unit before its class.
- Ask any questions about the practicum requirements during the practicum review time at the end of its class.
- Near the end of each unit you will find a *Cooperating Teacher Practicum Summary*. This provides a brief summary of the unit and its practicum requirements. Give this to your cooperating teacher to assist in completing your practicum requirement.

- It is important that you understand the practicum requirements and have a plan for implementing them with your cooperating teacher, especially if you will not begin the practicum requirements until completion of the entire course (e.g., if you are taking the course as part of a summer institute).
- If you feel that certain practicum requirements are not appropriate for your school site, you may negotiate a more suitable requirement with your cooperating teacher.
- For any substituted practicum requirement, you must receive written approval from the class instructor, which may be accomplished by submitting the newly negotiated requirement in writing to your instructor.
- To ensure that you are working with your cooperating teacher, your practicum requirements checklist must include your cooperating teacher's signature for each skill that has been "checked" as completed.
- You are responsible for completing the practicum requirements and turning in your practicum checklist to the course instructor in a time frame established by the instructor.
- The instructor will issue a Certificate of Completion to all participants who have completed all of the course requirements. This means attending all classes, participating in class activities, completing *Knowledge Reviews* for each unit, and completing the practicum requirements.

Unit 1:

Principles and Assumptions

Timothy J. Fox

Participant's Overview

Unit 1: Principles and Assumptions

Brief Description of Unit

This unit provides an overview of the common characteristics of students with severe disabilities and the assumptions and principles that effect the learning of these students. It provides information and activities to help paraeducators to assist in creating a learning environment in which students are treated with sensitivity and respect and in which all students are supported to reach their potential.

Hours of Instruction (In class format)

3 hours

Unit Objectives

Key: K = Knowledge, S = Skill (Knowledge objectives are addressed through reading and class activities; skill objectives are addressed through practicum activities)

1. Paraeducators will know about common characteristics (e.g., intellectual, physical, sensory, behavioral) of students with severe disabilities. (K)

2. Paraeducators will know about a series of assumptions and principles that affect the learning and inclusion of students with severe disabilities. (K)

3. Paraeducators will demonstrate their knowledge of principles and assumptions that affect the learning and inclusion of students with severe disabilities. (S)

Preparing for and Implementing the Unit

Required Readings: (located only in the Participant's Manual)

Fox, T. (2001). *Historical perspectives and guiding principles for the education of students with severe disabilities.* Unpublished manuscript. Burlington, VT: Center on Disability and Community Inclusion, University of Vermont.

Fox, T. (2001). *Characteristics of students with severe disabilities and educational implications.* Unpublished manuscript. Burlington, VT: Center on Disability and Community Inclusion, University of Vermont.

Fox, T. & Williams, W. (1998). *Best practice guidelines for meeting the needs of all students in local schools.* Unpublished manuscript. Burlington, VT: Center on Disability and Community Inclusion, University of Vermont.

Participant Preparation for Unit 1:

- Read the required readings **prior to class**
- Write two questions based on required readings for discussion in class that are relevant to you and your situation.
- Bring writing materials for note taking and activities to class.
- Review Practicum Requirements for Unit 1.
- Bring your Participant Manual to class.

Practicum Requirements

This unit has three required practicum activities which are designed to be completed at the end of the course. The paraeducator and cooperating teacher will collaborate to complete that activity. A practicum checklist of the activity to be completed and skills to be observed is found at the end of the manual. In the event that a practicum requirement is not appropriate for a paraeducator's specific situation, an alternate activity may be substituted based on negotiation with the cooperating teacher. The negotiated requirement must be approved by the course instructor.

Evaluation of Participant Learning

Participants are evaluated in three waits: (1) *Knowledge Review* quiz, (2) attendance and participation in class activities. and (3) Completion of practicum requirements. In order to facilitate learning of required readings, participants will take the *Knowledge Review* quiz at the end of each class session and will receive immediate feedback in class. Participants are encouraged to review questions before class so they can be aware of them during class. This can improve a participant's success on the quizzes .

Suggested Supplemental Resources

Books and Articles

Lehr D. & Brown, F. (1996). *People with disabilities who challenge the system.* Baltimore: Paul H. Brookes.

Snell, M. E. & Brown, F. (2000). *Instruction of students with severe disabilities.* (5th ed.) NJ: Prentice-Hall.

Taylor, S & Blatt, S. (1999). *In search of the promised land. The collected papers of Burton Blatt.* Washington, DC: American Association on Mental Retardation.

Web Sites

Inclusion Press.
www.inclusion.com

The Association for Persons with Severe Disabilities
www.tash.org

Inclusive Education for Disabled Students
www.normemma.com

Twenty Second Annual Report to Congress
www.ed.gov/offices/OSERS/OSEP/OSEP2000AnlRpt

Videos

HBO Project Knowledge (1993). *Educating Peter*. New York, NY: Home Box Office.

Unit 1 Required Readings

Principles and Assumptions

The required readings for this unit begin with a brief overview of the characteristics of students with severe disabilities (Fox, 2001). This article also provides a brief discussion of issues to consider when educating students with severe disabilities. The second article, also by Fox (2001) provides paraeducators with a perspective on how we educate students with severe disabilities across the country and how we treated these students in the recent past. This article also provides paraeducators with an overview of eight of the guiding principles we currently use to make decisions about how we educate students with severe disabilities. These principles include:

1. All children can learn
2. The importance of acceptance and belonging
3. The importance of respecting student choices
4. The Normalization Principle
5. The Criterion of Least Dangerous Assumption
6. Dignity of Risk
7. Age-appropriate placement and materials
8. Partial participation

The third article (Fox and Williams, 1998) provides a framework for creating effective schools for educating all students, including students with severe disabilities.

Characteristics of Students with Severe Disabilities and Educational Implications

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April, 2001

Students With Severe Disabilities

Children and youth with severe disabilities have historically been assigned various labels such as multihandicapped, autistic, severely /profoundly mentally retarded, deaf-blind or brain-injured. The students we are referring to here, are those children and youth whose disabilities are so severe that they require ongoing, extensive support in more than one major life activity in order to participate in integrated community settings and pursue the quality of life available to people with fewer or no disabilities.

According to Downing and Eichinger (1996) students with severe disabilities are extremely diverse in their abilities, interests and experiences.

> What may be common to them all (*students with severe disabilities*) is difficulty learning through either the visual or auditory mode or both auditory and visual modes. These students may also find it hard to understand spoken or written language or to remain seated while performing deskwork. These students tend to learn better when actively involved in the learning process and provided with tactile cues, pictures, objects, parts of objects, and clear models of behavior in addition to verbal information. (Downing & Eichinger, 1996, p.1)

A variety of medical problems may accompany severe disabilities, such as seizures, sensory loss, hydrocephalus (an abnormal increase of cerebrospinal fluid around the brain), and scoliosis (curvature of the spine).

Educational Implications

Early intervention programs, preschool and educational programs with the appropriate support services are important for students with severe disabilities! The student's parents, educators, physical therapists, occupational therapist, medical personnel and speech-language pathologist are some of the types of people who are team members needed to provide appropriate services for each student.

In order to effectively address the needs of individuals with severe disabilities, educational programs should address a variety of curricular areas, including communica tion, social, self-care, community living and vocational as well as more traditional academics. Related service providers must work closely with classroom teachers and parents in order to insure that relevant and necessary related services address the student's educational needs and are incorporated into ongoing school and community activities

Classroom arrangements should take into consideration students' needs for medications, special diets, or special equipment. The use of computers, augmentative/alternative communication systems, and adaptive switches are some of the technological advances that enable students with severe disabilities to participate more fully in the classroom.

Traditionally, children with severe disabilities have been educated in special schools or special education classrooms. However, since the 1980s many schools have been educating children with severe disabilities in their neighborhood school within the regular classroom, making sure that appropriate support services and curriculum modifications are available.

Attending the same school and participating in the same activities as their non-disabled peers facilitates the development of social skills and friendships for children and youth with severe disabilities (Hanline, 1993; Hunt, Staub, Alwell, & Goetz,1994; Staub, Schwartz, Gallucci, & Peck, 1994). The benefits to inclusion are being seen to benefit not only those students with disabilities but also their non-disabled peers and the professionals who work with them. (Peck, Carlson & Helmstetter, 1992; Giangreco, Dennis, Cloninger, Edelman, & Schattman, 1993; York, Vandercook, MacDonald, Heise-Neff, & Caughey, 1992).

Many schools are beginning to use a collaborative team approach to supporting students with severe disabilities. The identification and implementation of appropriate curriculum modifications, accommodations and supports requires collaboration on the part of the special educator, the regular educator, and other specialists involved in the student's program. As Downing and Eichinger (1996) point out:

> Perhaps the most critical strategy for creating successful learning experiences for all children, regardless of disability, in general education settings, is teamwork...Setting realistic goals for the whole child demands a commitment from all team members to contribute their expertise in such a way that the child does not become fragmented into various specialty areas. Respect for others' ideas, experiences and skills, regardless of degree of certification, is essential it the child's best interests are to guide the process (Downing and Eichinger, 1996, p. 9).

Community-based instruction may also be an important part of the educational program for high school students with severe disabilities. For many students with severe disabilities, it is meaningful and successful to teach skills in the actual setting in which the student is expected to use the skill. For example, if a student is expected to learn how to purchase items from a local store, it may be more efficient and meaningful to go the store to learn and practice the skills. As student's get older (around 14 years old), the educational team should spend more time focusing on the transition from school to adult life. Transition planning for valued post high school options such as a job or continued education are essential to a student's success and the long-range quality of life.

References

Downing, J., & Eichinger, J. (1996). Educating students with diverse strengths and needs together: Rationale and assumptions. In J. Downing (Ed.) *Including students with severe and multiple disabilities in typical classrooms: Practical strategies for teachers* (pp. 1-14) Baltimore: Paul Brookes.

Giangreco, M.F., Dennis, R. Cloninger, C., Edelman, S., & Schattman, R. (1993). I've counted Jon: Transformational experiences of teachers educating students with disabilities. *Exceptional Children, 59*, 359-372.

Hanline, M.F. (1993). Inclusion of preschoolers with profound disabilities: An analysis of children's interactions. *Journal of the Association of Persons with Severe Handicaps, 18*, 28-35.

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Peck, C.A., Carlson, P., & Helmstetter, E. (1992). Parent and teacher perceptions of outcomes of typically developing children enrolled in integrated early childhood programs. *Journal of Early Intervention, 16*(1),53-63.

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Historical Perspectives and Guiding Principles for Educating Students with Severe Disabilities

Timothy J. Fox

Center on Disability and Community Inclusion
The University Affiliated Program of Vermont, Burlington, VT
April, 2001

HISTORICAL PERSPECTIVE

The expectation that a child with a severe disability will live at home with his family, attend school with his brothers, sisters and neighborhood friends, graduate from high school, live as an adult in the community, or hold down a job is still a dream for many families across America. As we move into the 21st Century, we are finding that the expectations and supports for persons with severe disabilities are gradually increasing. More children and families are receiving the education and support they need to realize this dream, however, the process is painfully slow for most. Education for students with severe disabilities is a relatively new endeavor. Prior to 1975, education for students with moderate to severe disabilities was not mandated by Federal law and was not a priority for most state legislatures or schools. In most cases, students were provided an education through the efforts of private organizations such as the ARC (formerly the Association for Retarded Citizens) or their parents banding together to form schools. Many children were institutionalized shortly after birth at the recommendation of the family physician and a lack of community support to maintain a child with severe disabilities at home. Every state had (and most still do have) at least one State institution for the people with disabilities in which children were housed. This system lead to segregation, abuse and hopelessness for many persons with severe disabilities and their families.

In 1965, Burton Blatt visited several institutions across the United States with Fred Kaplan, a photographer who took hidden camera photographs of what he saw. He published a book titled *Christmas in Purgatory - A Photo Essay on Mental Retardation* (1974). The following quote is from his book.

> The infant dormitories depressed us the most. Here cribs were placed – as in the other dormitories – side by side and head to head. Very young children, one and two years of age, were lying in cribs, without interaction with any adult, without playthings, without any apparent stimulation. In one dormitory, that had over 100 infants and was connected to 9 other dormitories that totaled 1,000 infants, we experienced a heartbreaking encounter. As we entered, we heard a muffled sound emanating from the "blind" side of a doorway. A young child seemed to be calling "Come. Come play with me.

> Touch me." We walked to the door. On the other side were forty or more unkept infants crawling around a bare floor in a bare room. One of the children had managed to squeeze his hand under the doorway and pushed his face through the side of the latched door. His moan was the clearest representation we had ever heard of the lonely, hopeless man. In other day rooms we saw groups of 20 – 30 very young children lying, rocking, sleeping, sitting – alone. Each of these rooms were without toys or adult human contact, although each had desperate looking adult attendants "standing by." The "Special Education" we observed in the dormitories for young children was certainly not education. But, it was special. It was among the most especially frightening and depressing encounters with human beings we have ever experienced (p. 34).

Through the work of people like Wolf Wofensberger and Burton Blatt and countless others, the plight of persons living in public institutions was brought to our legislatures and courts. A few state institutions were ordered closed and others required to make drastic changes to insure that the conditions documented by Dr. Blatt were not perpetuated.

In 1975, Public Law 94-142, the *Education for All Handicapped Children Act* was passed. The law required all states to provide a free, appropriate, publicly funded education for all children with disabilities. To address this new mandate, states established special classes, and in many cases special schools for students with severe disabilities. By 1983, the *Homecoming Project*, a special project funded by the U. S. Department of Education to the University of Vermont, demonstrated that children with severe disabilities could be successfully taught within regular education classrooms in their local schools. Currently, some students with severe disabilities are included in general education classrooms in their local schools. The majority of students with severe disabilities across the United States are still educated in special classrooms for students with severe disabilities. Vermont has the largest percentage of students with disabilities included in general education classes than any other state with just over 85% of students included at least 50% of the time in general education classes (22nd Annual report to Congress, 2000). The breakdown of percentages of students considered to have severe disabilities in regular classes is included in the charts below. Each chart includes the top two states and the bottom two states in terms of percent of students included in general education classes across the state for the year 1997/98.

Guiding Principles And Assumption

Changes in education and treatment of children with severe disabilities over the past 25 years has been based upon various assumptions and principles. The following guiding principles and assumption about students with severe disabilities have greatly contributed to how we view students and their educational programs today.

All Children Can Learn

One assumption that has changed over the years is the assumption that some children are so severely disabled that they cannot learn or benefit from an education and are better off in institutions, hospitals or nursing homes. We now know, given proper instruction and supports that every child can benefit from an education. Some children have such intense health needs that it is easy for educators and parents to become discouraged. For some children the benefit is as much in the process as the outcomes. When educators, family members, peers and community members pull together to support one another and a child with severe disabilities the positive benefits of such an effort are immeasurable. Even if the child learns very few skills, the support network of people who know and care about the child can carry over into all aspect of the child's and her family's life.

The Importance of Acceptance and Belonging

Throughout history people with disabilities have been separated from the mainstream of society for various reasons. Some say it was to protect the individual with a disability from the cruelty of other people. Some say it was to protect society from people with disabilities. The bottom line is that people with disabilities are people. As people, we all have a need for acceptance and a need to belong in our families, our schools, and in our communities. "Belonging – having a social context- is requisite for the development of self-esteem and self-confidence." Kunc, 1998, p. 83). According to Maslow's Hierarchy of Human Needs (Maslow, 1970) our most basic needs are physiological – food, water, shelter and warmth. To this end our schools provide students with free/reduced lunch and breakfast programs, and school nurses routinely provide students in need with winter coats or boots. The next level of need is for safety. Children need to feel physically and psychologically safe in order to benefit from schooling. A student who is worried about his safety on the playground or is afraid she will be ridiculed if she answers a question incorrectly is not concentrating on instruction. The third level of need is belonging – the need for friends and family. This is a need that until recently our schools have paid very little attention. When these three basic human needs are met, according to Maslow, comes self-esteem and self-actualization – pursuit of inner abilities, fulfillment and creativity (Maslow,1970).

According to Kunc (1998) western societies, and schools in particular, have inverted Maslow's hierarchy to require achievement before students can experience a sense of belonging in our schools. "If you are a good student, you belong here. If not you belong somewhere else." This is the message too many of our children have gotten from their schools. This is especially true for children with disabilities.

The degree of underachievement and unfulfilled potential in society may not

> be the result of widespread laziness. It may result from a sense of apathy that so often accompanies the constant demand to be perfect enough to belong. What is needed in society and especially in the education system is not more rigorous demands to achieve and master so that our youth will move closer to ideal perfection. What is needed is a collective effort to search for ways to foster a sense of belonging in schools, not only for students but also for staff (Kunc, 1998, p. 91).

With acceptance and belonging comes a willingness to engage in the educational process, personal accomplishment and achievement.

The Importance of Respecting Student Choices

It is easy for people who work with students with severe disabilities to inadvertently enable students to become overly dependent and complacent. As adults who are moving students through their day on a schedule it is easy to forget that the student with a severe disability might need some extra time to make choices about what and how they want to participate. Children with physical disabilities, for example, are necessarily dependent on others to "bring part of the world to them" because they are less able to explore and maneuver around the environment on their own. Persons with physical disabilities learn to control their environments through the use of language (e.g., asking others to help or to slow down or to stop) or by maximizing the use of the movement skills they have along with the use of technology to assist them. If a person with a physical disability also has communication difficulties, or visual, auditory, or cognitive limitations, their ability to control their environment becomes more difficult. If subtle requests for attention, items, activities or to be moved go unanswered or if objections to being moved or required to participate in certain activities are ignored, the student may become resigned to the situation and begin making fewer requests. Over time, this can lead to the student being overly dependent on his caregivers. Students can become very docile and non-communicative if their choices are not often honored. It is extremely important to recognize students' requests and objections and honor them whenever possible to allow them appropriate control over their own lives. Asking permission to assist a student, telling a student what we are doing or where we are going, giving the student choices about how or what we will do next are all good ways to respect the student's need for control and to encourage the student to stay engaged with us as we work with them.

Normalization Principle

The normalization principle was first proposed by Nirje (1969). Nirje, from Sweden, was mostly concerned about the implications of the normalization principle for the design and operation of residences for persons with disabilities. The normalization principle can be described as follows, "Utilization of means which are as culturally normative as possible, in order to establish and/or maintain personal behaviors and characteristics which are as culturally normative as possible." (Wolfensberger, 1977).

In today's view, normalization simply means to provide students with as "normal" a living and learning situation as possible and to teach the student the same skills that are expected of other same age persons in their community. For example, we wouldn't expect a "normal" 13 year old student to change his clothes in the back of his science classroom. We would tell him to go to the bathroom or to the locker room to change. If a 13 year old student with a severe disability needs changing, it should also be done in the privacy of the locker room or a bathroom. A 19 year old student who reads at a 2nd grade level wouldn't go to a 2nd grade classroom for reading instruction. In the same vain, we should not be teaching a 13 year old to play with a preschool toy (busy box, top) but should look for an age-appropriate "toy" (e.g., boom box, Walkman), that the student can utilize.

The Criterion Of The Least Dangerous Assumption

The "Criterion of the Least Dangerous Assumption states, "in the absence of conclusive data educational decisions should be based on assumptions which, if incorrect, will have the least dangerous effect on the student" (Donnellan, 1984, p. 142). It has been used by Donnellan and others to assess the various dimensions of educational programs for students with autism and other severe disabilities. There is a range of options to consider for each aspect of a student's program. The use of the criterion of the least dangerous assumption is intended to help teams to minimize the damage to the student if the team makes the wrong decision based on common practice. For example, it is common practice in most states to assign students with severe disabilities to a classroom with other students with similar disabilities. This practice commonly results in students having limited opportunities to interact with non-disabled peers, a lack of appropriate behavior/communication models, a wide age range among the students placed in the classroom and limited access to a range of general education curriculum, materials and instructors. The educational dimensions typically assessed include:

1. Degree of opportunity for interactions with non-disabled peers. The range of opportunities can go from zero opportunities to 100% opportunities.
2. Nature of educational placement strategies. The range of strategies can go from automatic placement in a special setting for students with similar disabilities to individualized placement strategies and heterogeneous groupings.
3. Nature of instructional settings and materials. The range of settings and materials can go from artificial/school only to natural/non-school only.
4. Nature of instructional cues and consequences. The range of cues and consequences

can go from artificial/contrived only to natural only.

5. Nature of instructional arrangements. The range of instructional arrangements can go from teaching 1:1 to teaching in groups of various sizes and from interacting with familiar persons only to interacting with anonymous persons only.
6. Degree of reliance on instructional inference. The degree of reliance on instructional inference can go from high to low.
7. Chronological age-appropriateness of the curriculum. The range of age appropriateness can go from mental age-appropriate only to chronological age-appropriateness only.
8. Methods of evaluating student progress. The range of assessment methods can go from student deficit to instructional deficit.
9. The degree of home/school cooperation and communication. The degree of cooperation can go from no cooperation to cooperatively defined (Donnellan, 1984).

Dignity of Risk

Each of us in our lifetime takes numerous risks, both emotional and physical, as we strive to grow and develop. A major milestone in a person's life is gaining the ability to drive a car, for example. Being able to drive is a huge responsibility and includes the very real risk of potential injury to yourself and to others and even death. Yet, most of us look forward to driving. Persons with severe disabilities are often not allowed to take the normal risks that most people in the culture take. For children with severe health problems, for example, going to school can he a great risk to their health. For a child with cerebral palsy, being allowed to walk down stairs constitutes a risk. Dignity of risk refers to those times when it is more important to the individual to risk injury or insult than to take the safe path. It is through taking risks that we grow as individuals.

Age-Appropriate Placement And Materials

The concept of age-appropriateness comes from the principle of normalization. Age-appropriate placement refers to the need to educate students of similar age (e.g., plus or minus two years) together. Age-appropriate materials refers to using materials that would normally be used by similar aged persons. With the increased inclusion of students with disabilities in regular classes in the local school, the issues around how to dress, whether or not to allow a student to cut his hair in the latest style or to pierce her ears (or other body parts) are new for parents of children with severe disabilities. Do we stay with what is comfortable for us (as adults) or go with what is the "norm" among our children's peers?

Partial Participation

Partial participation (Baumgart et. al, 1982) refers to a process in which we can adapt an activity so that a student can complete a task even though she cannot do the task completely by herself. Prior to considering partial participation, many students with severe disabilities were excluded from most activities because they were not able to perform the entire task or activity independently. Typical adaptations that can be used in a variety of combinations include:

1. modified materials (e.g., toothbrushes, spoons, and cups are designed for easier gripping, shoes that close with Velcro closures rather than shoe laces);
2. adaptive switches or automated appliances (e.g., battery powered toothbrush, eye gaze appliance for using a computer);
3. changed sequences within an activity (e.g., a student in a wheelchair could be the line leader and tell the student pushing him which way to go rather than leading by walking, a student could wear her bathing under her clothes rather than changing at the pool); and
4. personal assistance – doing certain steps in the task for the student (e.g, fastening pants for a child after using the bathroom, guiding a student's hand to scoop food) (Snell & Brown, 2000, pp 338).

A student with a severe disability can take part in many, if not all, typical activities if we can arrange to provide assistance for the parts the student cannot perform and allow her to do the parts she can do herself. Partial participation allow students to participate at their level, attain dignity and to profit from the skills they are able to learn and use, rather then remain totally dependent for others. If we limited participation in activities to only those students who can engage in the activity independently, students with severe disabilities would take part in very few activities.

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Best Practice Guidelines for Meeting the Needs of All Students in Local Schools

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A framework for creating effective schools is represented by the *Best Practices Guidelines* (1998) which incorporates the beliefs and vision of Vermonters, The *Best Practices Guidelines* is a document which lists specific statements of educational practices which support development of caring communities and the education of all students in their local schools. Best practice statements are general strategies and methods for developing and delivering educational services which optimize the preparation of all students to become competent, caring, productive, and responsible individuals. The guidelines are intended to be used as standards for assessing school-wide, classroom and individual student programs and services. They are based upon *The Best Practice Guidelines for Meeting the Needs of All Students* (1991), the *Best Practice Guidelines for Students with Intensive Educational Needs* (1987), effective schools literature, and the experiences and input of hundreds of Vermonters who are restructuring their local schools to improve education and accommodate all children. Areas covered by the guidelines include:

school climate,
school structure,
classroom climate,
classroom structure,
curriculum and assessment, and
teaching and learning.

Best Practice Statements

SCHOOL CLIMATE

1. Appreciation of individual and cultural differences.
2. Students, families, school staff and community members work in a collaborative manner.
3. Students, staff and family members have ample opportunities to be recognized for their accomplishments, including helping others.
4. The school's discipline policy is respectful, non-punitive, educational and encourages the taking of responsibility for one's actions.

5. Students, parents, school staff and community members are represented on all school-related committees.

6. All students are members of their Individual Support Team along with their teacher (Mentor at middle & high school level) and parents. Membership may expands as student needs increase.

7. Individual Support Teams are responsible for all aspects of the student's education and support plans.

8. All adults in the school model respect, caring, understanding, cooperation and helping.

9. Adults encourage risk taking, joint problem solving and decision-making.

10. Emphasis on success in all areas of life, not just academics.

11. Examples of student work in all areas (academic, arts, social) are displayed throughout the school.

12. The school is well maintained and presents a pleasant, cheerful environment.

13. High Expectations for performance are held for all students and staff

SCHOOL STRUCTURE

14. The school has a well articulated vision, mission and philosophy.

15. A school committee consisting of students, family, staff and community members meet regularly to develop and evaluate action plans for school improvement.

16. Teachers, students and families are supported to meet together to develop action plans for continued classroom improvement.

17. Teachers, students and families are supported to meet to develop action plans for individual students.

18. Decisions are shared with group consensus as the goal.

19. Interagency relationships and business partnerships are developed and maintained.

20. Staff, students, family and community members are provided opportunities to become proficient at collaborative planning and group problem solving.

21. General roles and responsibilities of all school staff are clearly delineated.

22. All students and staff are provided opportunities to take part in all school sponsored activities.

23. Time for school staff to meet and plan with each other, with students and with parents is built into the school schedule.

24. Instructional support staff support classroom teachers through consultation, team teaching, direct instruction in the classroom and in other general education environments.

25. The instructional support system is clearly delineated and available to all students, staff and families.

26. The professional development process includes individualized plans, inservice training, and regularly scheduled observations with feedback.

CLASSROOM CLIMATE

27. Focus is on problem solving, social skills, and the development of friendships and helping relationships.

28. There is a Parent/Community Volunteer Program.

29. Students are involved in self-assessment and goal setting concerning their academic and social performance.

30. The classroom community (students, their families, teachers and support staff) meet periodically to set overall classroom goals, to celebrate successes and to problem solve issues important to the students, families or staff.

31. Classroom rules and expectations are jointly developed by students and faculty.

32. Arts and Humanities are integrated into the classroom curriculum and class projects.

33. Students are equal partners in planning their educational programs.

34. Students and their families are provided choice and decision making opportunities concerning what, when, where and how students learn.

35. Adults model respect and caring concern for differing opinions and ideas as well as for all students.

36. Holistic student generated portfolios.

37. Family members are always welcome in the classroom.

38. Individual Support Teams meet periodically to set goals, monitor progress and problem solve issues important to the teacher, student or the student's family

39. Peer Tutoring/Mentoring is available to all students.

CLASSROOM STRUCTURE

40. The classroom teacher has primary responsible for all students on his/her class list.

41. Support staff are an integral part of the classroom community (providing the teacher, students and families with support, consultation, team teaching and direct instruction in the classroom).

42. Students and families are involved in major decisions affecting the classroom.

43. Student plans are developed by the teacher, student and family through Individual Student Teams.

44. Heterogeneous grouping is the norm.

45. Ability grouping is short term and for specific skill building activities only.

46. Self-evaluation and holistic student portfolios are emphasized.

47. Conflict resolution and problem solving skills are emphasized.

48. Students are provided access to technology.

49. Students are provided with individual space as well as access to shared group space.

50. Family meetings are held on a regular basis.

51. Class meetings are held on a regular basis.

52. Major transitions (entering school, grade to grade, school to school, school to work) are planned well in advance.

53. Circles of Friends are available to all students.

CURRICULUM AND ASSESSMENT

54. Communication, problem solving, personal development and social responsibility and the arts are given equal emphasis to technology, humanities, social students, math and science (Vermont's Common Core).

55. All student are provided with instruction and support for developing and maintaining an on-going, holistic portfolio.

56. Students are provided with authentic (real life) learning activities and experiences.

57. Student and family goals and interests are incorporated into each classrooms curriculum and activities.

58. Student progress is evaluated based on performance in authentic (real life) activities.

59. The curriculum promotes meaningful participation in school and community activities.

60. The curriculum sets a high standard of excellence.

61. All professional staff are proficient at assessing student progress across curriculum areas using a variety of assessment tools and procedures.

62. The curriculum is delivered in each classroom and other school and community environments in an integrated format.

TEACHING AND LEARNING

63. Staff are proficient at previewing instructional activities, giving clear written verbal and written directions, checking for understanding and giving constructive feedback.

64. Staff use a variety of instructional methods (e.g., cooperative learning, peer tutoring, think-pair-share, direct instruction, community service learning, computer assisted instruction, modeling, role playing).

65. A variety of instructional groupings are available to all students.

66. A variety of materials are available to all students.

67. A variety of instructors are available to all students.

68. A variety of settings and activities are available to all students.

69. Accommodations and supports are available to all students.

70. There is communication and coordination among school staff, students and families for lessons currently being taught.

71. Staff use action research strategies to determine the efficacy and usefulness of teaching methods and teaching/learning procedures.

Unit 1 Activity Sheets

Principles and Assumptions

Activity Sheet #1

Student Description Activity

Student Description	Severely Disabled?	Why or Why Not?
Billy is identified as having autism. He is 12 years old. He speaks a few words but doesn't use them to indicate wants or to relate ideas to others. He can dress himself if his mother lays his clothes out for him. He eats and toilets himself independently. Safety is a concern as he often runs away from people.	Yes No	
Sara has a severe hearing loss in one ear and has spina bifida which requires her to use a walker or wheelchair to move about. She is 10 years old, and academically is at or above grade level in all subjects. She speaks well and has a great sense of humor. She is independent in her self-care skills except that she still needs some help dressing.	Yes No	
John has Downs Syndrome. He is 19 years old. He reads at a 3rd grade level and can do basic math. He knows how to shop and use his favorite restaurants but has trouble making change and following a budget. He attends high school and holds down a part-time job with the assistance of a job coach.	Yes No	
Jesse is a 4 year old who has been identified as deaf-blind. He has some vision (can see bright lights) and wears a hearing aid in his left ear which allows him to hear with difficulty. He has some speech but is very hard to understand.	Yes No	

Unit 1 Forms

Principles and Assumptions

- Knowledge Review
- Cooperating Teacher Practicum Summary
- Evaluation Form

Knowledge Review Unit 1: Principles and Assumptions

Name: ____________________

Date: ____________________

Site: ____________________

Instructor: ____________________

Directions: *Read each question and circle the letter corresponding to the one item that you think is the best answer.*

1. Which of the following characteristics is common in students with severe disabilities.
   a. students usually need support in major life activities (e.g., domestic, vocational)
   b. students are good at playing soccer and other sports
   c. students have little trouble generalizing skills from one situation to another
   d. students generally speak well
   e. all of the above

2. Which of the following statements is true:
   a. students with severe health problems cannot learn to read or write
   b. all children can learn, regardless of the severity of their disability
   c. some children just can not learn, no matter how hard we try
   d. all of the above

3. Which of the following are "dimensions" of the "Criterion of Least Dangerous Assumption":
   a. degree of opportunity for interactions with non-disabled peers
   b. amount of time spent in the community
   c. chronological age-appropriateness of the curriculum
   d. all of the above

4. Which of the following statements is true about the "Normalization Principle":
   a. it was first cited by Freud in the early 1900s
   b. it was developed in reference to the need to include students in regular classes in local schools
   c. it was developed in reference to the design and operation of residences for persons with disabilities in Sweden
   d. a and c only

5. The "Criterion of Least Dangerous Assumption" should be considered:
   a. when considering whether to teach a student who is nonverbal to read
   b. when considering whether to allow a child with severe cerebral palsy (who cannot move well, cannot speak and is slow to respond to verbal requests) to attend a social studies class to listen to the teachers lectures
   c. when considering whether a student with disabilities should play soccer with his classmates
   e. a and b only

6. When should we consider the "Dignity of Risk" for students with severe disabilities:
   a. when considering whether or not a student should take part in a school performance
   b. when considering whether or not a student with health problems should attend school with her peers
   c. when considering whether a student with poor coordination should participate in gym class with his peers
   d. all of the above
   e. b and c only

7. The term "age-appropriate" in reference to placement or materials refers to:
   a. placement or materials that match the student's chronological age (e.g., + or – 2 years)
   b. placement or materials that match the student's developmental age
   c. placement or materials that match the student's intellectual functioning
   d. placement or materials that match the student's skill level
   e. all of the above

8. The use of "partial participation" can allow students with severe disabilities to:
   a. engage in activities that they currently do not have the skill to perform independently
   b. practice skills they have learned or are learning within a meaningful activity
   c. exercise a measure of independence
   d. relax while someone else does the work
   e. all of the above
   f. a, b, and c only

9. According to "Maslow's Hierarchy of Human Needs" which of the following statements is true:
   a. it can interfere with learning when a child is hungry or cold,
   b. a student with a severe disability does not belong in a regular classroom but should be with other students with severe disabilities
   c. feeling a sense of belonging and acceptance can facilitate achievement
   d. all of the above
   e. a and c only

10. When working with a student with a severe disability, it is important to include the student in discussions about him or her self (not talk about the student to another person as if the student were not there) because:
   a. it is rude and disrespectful to talk about someone as if they were not there
   b. it is important to model for others how to interact with the student
   c. since the student probably doesn't understand, it really doesn't matter
   d. a and b only

Cooperating Teacher Practicum Summary

Unit 1: Principles and Assumptions

I. Brief Summary of the Unit

This unit provides the participants with knowledge about the characteristics of students with severe disabilities, a brief history of how these students have been educated in the United States and an overview of some of the basic assumptions that guide the education of children and youth with severe disabilities.

The assumptions addressed in Unit 1 include:

- All children can learn
- Acceptance and belonging are important to all students
- Respecting student choices
- Normalization principle
- Criterion of least dangerous assumption
- Dignity of risk
- Age-appropriate placement and materials
- Partial participation

II Practicum Requirements

1. a) The paraeducator will select a student with a severe disability with the help of the cooperating teacher and will research the student's disability. This may be done on the internet, through library research or by interviewing someone that has information about the specific disability (e.g. a representative of the National Autism Society, a special educator or the student's parents).

What is the disability? ____

How does the disability affect communication development?

____

____

____

How does the disability affect physical development?

____

____

____

____

How does the disability affect vision, hearing, touch, smell or taste?

____

____

____

b) The paraeducator will answer the following questions about the disability:

A. Are potential causes of the disability (e.g., genetic, related to brain injury, associated with the mother's illness during pregnancy) known? If so what are they?

____

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B. List at least two implications for the student's educational program.

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C. List at least two implications for the student's life beyond school.

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2. The paraeducator will meet with the cooperating teacher to select four assumptions from the readings and will discuss each assumption with the cooperating teacher so that the paraeducator can list below at least one example of how each assumption is

evident within the student's educational program.

Assumption 1: ____

Assumption 2: ____

Assumption 3: ____

Assumption 4: ____

3. The paraeducator will meet with the cooperating teacher to review and identify ten best practices that are apparent when reviewing the student's educational program. The ten best practices identified should be listed below.
    1.
    2.
    3.
    4.
    5.
    6.
    7.
    8.
    9.
    10.

Note to the Cooperating Teacher: It may be helpful for you to review the required readings for this unit. The readings are available in the paraeducator's Participant Manual.

Unit 1 Evaluation Form
Principles and Assumptions

Participant name (optional): ____________________ Date: ________________

Directions: Please check the box next to the statement that best reflects your opinion regarding the following questions.

1. How **important** were the objectives for this unit?
   - ☐ very important
   - ☐ important
   - ☐ somewhat important
   - ☐ not important

2. How **relevant** were the required readings for this unit?
   - ☐ very relevant
   - ☐ relevant
   - ☐ somewhat relevant
   - ☐ not relevant

3. How **understandable** were the required readings for this unit?
   - ☐ very understandable
   - ☐ understandable
   - ☐ somewhat understandable
   - ☐ not understandable

4. How **useful** were the activities for this unit?
   - ☐ very useful
   - ☐ useful
   - ☐ somewhat useful
   - ☐ not useful

5. How **understandable** were the activities for this unit?
   - ☐ very understandable
   - ☐ understandable
   - ☐ somewhat understandable
   - ☐ not understandable

6. How would you rate the **quality** of the materials for this unit?
   - ☐ very high quality
   - ☐ high quality
   - ☐ fair quality
   - ☐ poor quality

7. How **relevant** were the practicum requirements for this unit?
   - ☐ very relevant
   - ☐ relevant
   - ☐ somewhat relevant
   - ☐ not relevant

8. How **understandable** were the practicum requirements for this unit?
   - ☐ very understandable
   - ☐ understandable
   - ☐ somewhat understandable
   - ☐ not understandable

9. What was the most important or useful thing that you learned from this unit?

10. Please use the rest of this page to make suggestions for improving the objectives, required readings, activities, and practicum requirements for this unit.

Unit 2:

Augmentative and Alternative Communication

Timothy J. Fox

Participant's Overview

Unit 2: Augmentative and Alternative Communication

Brief Description of Unit

This unit provides an overview of symbolic and non-symbolic communication and the variety and forms of augmentative and alternative communication methods. The information and activities included in this unit will help paraeducators to better understand student communications, create opportunities for communication to occur and understand ways to facilitate communicative interactions between the student, his/her peers, and other adults within the school and the community.

Hours of Instruction (In class format)

3 hours

Unit Objectives

Key: K = Knowledge, S = Skill (Knowledge objectives are addressed through reading and class activities; skill objectives are addressed through practicum activities)

1. Paraeducators will understand the characteristics of communication (symbolic and nonsymbolic) and the importance of trying to understand it. (K)

2. Paraeducators will know about a variety of forms of augmentative and alternative communication. (K)

3. Paraeducators will understand the importance of creating opportunities for communication and ways to facilitate it. (K)

4. Paraeducators will demonstrate their knowledge of augmentative and alternative communication with a student who has severe disabilities. (S)

Preparing for and Implementing the Unit

Required Readings: (located only in the Participants Manual)

Fox, T. (2001). *Augmentative communication: Glossary of key terms and ideas.* Unpublished manuscript, Burlington, VT: University of Vermont, Center on Disability and Community Inclusion.

Duncan, J. M., & Prelock, P., A. (1998). Communication systems in the classroom. In M. Giangreco (Ed.). *Quick-guides to inclusion: Ideas for educating children with disabilities.* Baltimore, MD: Paul H. Brookes.

Participant Preparation for the Unit:

- Read the required readings **prior to class**
- Write two questions based on required readings for discussion in class that are relevant to you and your situation.
- Bring writing materials for note taking and activities to class.
- Review Practicum Requirements for Unit 2.
- Bring your Participant Manual to class.

Practicum Requirements

This unit has three required practicum activities which are designed to be completed at the end of the course. The paraeducator and cooperating teacher will collaborate to complete that activity. A practicum checklist of the activities to be completed and skills to be observed is found at the end of the manual. In the event that a practicum requirement is not appropriate for a paraeducator's specific situation, an alternate activity may be substituted based negotiation with the cooperating teacher. The negotiated requirement must be approved by the course instructor.

Evaluation of Participant Learning

Participants are evaluated in three ways: (1) *Knowledge Review* quiz, (2) attendance and participation in class activities, and (3) completion of practicum requirements. In order to facilitate learning of required readings, participants will take the *Knowledge Review* quiz at the end of each class session and will receive immediate feedback in class. Participants are encouraged to review questions before class so they can be aware of them during class. This can improve a participant's success on the quizzes.

Suggested Supplemental Resources

Books and Articles:

Koegel, L. K. (1995). Communication and language intervention. In R. L. Koegel & L.K. Koegel. (Eds.). *Teaching children with autism.* Baltimore: MD: Paul H. Brookes.

Orelove, F. P. & Sobsey, D. (1996). Communication skills. In F. Orelove & D. Sobsey. (Eds.). *Educating children with multiple disabilities: A transdisciplinary approach.* Baltimore, MD: Paul H. Brookes.

Siegel, E., & Wetherby, A. *(2000). Non-symbolic communication.* In M. E. Snell, & F. Brown *Instruction of students with severe disabilities.* (Eds.) (5th ed.). (pp. 400-450). Upper Saddle River, NJ: Prentice-Hall.

Web Sites:

Augmentative and Alternative Communication Centers
http://aac.unl.edu/

ACCI Augmentative Communication Consultants, Inc.
http://www.acciinc.com/index.html

ZYGO Industries
http://www.zygo-usa.com/

Mayer-Johnson, Inc.
http://www.mayerjohnson.com/

GUS Communications
http://www.gusinc.com/index.html

AAC Intervention.com
http://www.aacintervention.com/

Communication Devices, Inc.
http://www.comdevices.com/

Augmentative Communication technology Review
http://members.aol.com/DGGRIM/indexA1.html

Augmentative Communication
http://www.ccboe.com/assistivetech/augcom.htm

Videos:

Chen, D. & Schachter, P. H. (1997). *Making the most of early communication*. Distributed by AFB Press, American Federation for the Blind, 11 Penn Plaza, Suite 300, New York, NY, 10001.

You and Me: Communication. (1997). Teaching Research Division, Western Oregon State College. 345 N. Monmouth Ave., Monmouth, OR 97361. (503) 838-8821.

Unit 2 Required Readings

Augmentative and Alternative Communication

The required readings for this unit begin with a brief article (Fox, 2001) which provides a basic glossary of communication terms and some key ideas for supporting students with intensive communication needs and students who require augmentative or alternative means of communication. The second article (Duncan & Prelock, 1998) provides numerous concrete ideas and tips for working with students with intensive communication needs in inclusive settings.

Augmentative and Alternative Communication: Glossary of Key Terms and Ideas

Timothy J. Fox

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April, 2001

Communication functions or pragmatics refers to how we use communication to meet our needs. We communicate to get things (e.g., request food or drinks, request help, ask for a hug, to get someone's attention), to refuse or protest (e.g., pull away when someone touches us, say "no", walk away), to gain information or to share our ideas and feelings with others, and for a wide variety of other purposes.

The mode of communication refers to the general category of behavior used to communicate (Orelove & Sobsey, 2000). Typical modes of communication include vocal (e.g., speaking, making sounds to represent items like "baa" means "ball"), gestural (e.g., signing or natural gestures like waving to mean goodbye), graphic (e.g., pictures, written words, symbols), and tactual (reading Braille symbols, identifying objects through touch) modes. Most of us communicate through a variety of modes. We speak, read and write, and use a variety or gestures, affect, body language and facial expressions and touch to convey meaning to others. This is referred to as mixed or multiple modes of communication.

The form of communication refers to the actual movements we use to communicate with others. For example, the word "ball" is a form within the vocal mode of communication. A scream would be another form while a cooing sound would represent third form within the vocal mode. The differences between the mode and the form of communication can be subtle. Remember the mode represents a general category of behavior (e.g., vocal behavior) while the form refers to the specific behaviors the student uses within the general category (e.g., words, grunts, moans, screams).

Examples of Function, Mode and Form. The table below provides a few examples of how the function, mode and form of communication work together.

Function	Mode	Form
Request Attention	Vocal	Yells
Request Attention	Tactual	Taps person's arm
Name Item	Vocal	Says "ball"
Affirmation	Gestural	Nods head
Affirmation	Vocal	Says "yes"

Symbolic communication is communication that uses symbols that represent something else. For example, the spoken word "car" represents a car. So does a picture of the car or the written word "car." These are all symbols for "car." If we communicate with spoken words, signed words, pictures or other abstract representations to mean "car" we are using a symbolic communication.

Non-symbolic communication is communication that does not involve the use of symbols. Pointing at an actual car to indicate that you want to go for a ride is a non-symbolic communication. A newborn baby crying because she is hungry is a form of non-symbolic communication. We all communicate non-symbolically. For example we communicate how we feel through facial expressions, body language and affect.

A communication system refers to a specific set of responses used to communicate with a mode. For example when we speak English we are using a communication system within the vocal mode. If we write in French we are using a communication system within a graphic mode. American Sign Language (ASL) is a system within the gestural mode. Many of us also use a variety of communication systems.

Early Communication Development

Siegel & Wetherby (2000, pp. 412) state, "Communication is a developmental process involving reciprocal interactions between individuals. Understanding and enhancing communication requires the building on existing non-symbolic behaviors that are communicative signals or that have the potential to be communicative."

Initially, an infant's behavior affects her caregivers and serves to communicate even though the infant does not use symbols. When the baby cries, it's parents understand that the child needs attention but must go though a problem-solving routine to determine what the baby needs. Is the baby hungry? Does the baby need changing? Does the baby want to be held, rocked, played with? At around nine months of age, infants begin to use specific sounds, gestures or movements to communicate wants. The baby may hold it hands up towards it mother and say "ah ah ah ah" to indicate that she wants to be picked up. By around the thirteenth month babies begin to use words (e.g., "ba" for ball, "boof" for juice, mama, dada). At some point in this early communication development, a child's behavior shifts from being a reaction to internal states (hunger, discomfort) and external conditions (cold, hot, noise levels) to being intentional.

Intentional behavior is goal-oriented behavior. For example, if a child is hungry, she may approach the refrigerator, open and door and search for a snack. Intentional communication develops along a developmental continuum beginning with automatic and reflexive reactions and progresses towards sophisticated, goal-oriented behavior. Newborns react to the environment around them and to their internal state. When they are hungry they cry. When a nipple is presented they suck. Within a few months they develop an awareness of goals but do not have plans to achieve the goals. They might want to eat or to interact with their mother, but they cannot yet develop a plan for getting their needs met. As children grow older and become more experienced they begin to coordinate their behaviors to pursue their goals. A ten month old will, for example, crawl to the refrigerator where her bottle is stored, raise a hand towards it, look at her mother and say "ah, ah, ah" to indicate that she wants her bottle. "Simple, coordinated and alternative plans to achieve goals develop from 9 – 18 months of age." (Siegel & Wetherby, 2000, pp. 415-416).

Receptive and Expressive Communications: Communication involves taking turns sending and receiving a message. "Non-symbolic communicators are individuals who use primarily non-symbolic communication as senders" (Siegel & Wetherby, 2000, pp. 416 – 417). "The receptive abilities of non-symbolic communicators may be comparable to or better than their expressive abilities." (Siegel & Wetherby, 2000, pp. 416 – 417). For example, a child with very little voluntary control of her voice or body movements, might have very good receptive language skills. This child may understand what we are saying to her, but may have great difficulty expressing herself to us. It is essential, therefore, for us to be very good listeners to our students messages.

Situational or contextual cues aid us in understanding non-symbolic communications. Often the clues that help us understand a person's non-symbolic communications are in the context of the situation. For example, if an infant starts to cry when she sees (and perhaps smells) her mother preparing lunch, her mother might interpret her cry as "I am hungry", because of the situational context. If the baby stops crying when food is given, the mother's interpretation is confirmed. Had the child stopped crying when her mother approached her, but had refused the food, her mother might have realized that she was not hungry, but was crying for her mother's attention.

Developing a relationship with a person who communicates non-symbolicly is essential to be able to understand her communications. For this reason parents are often the best source of information about how a child with a severe disability communicates. A person may use the same sounds or movements to mean a variety of things. The subtle changes in body tension, voice pitch, or facial expression along with the sound or movement can convey very different messages. Persons who will be the receiver of the messages sent by a student with severe disabilities, must take the time and make the effort to really observe (watch the child and look for contextual cues) and "listen" to the student's communications.

Five Fundamental Principles Related to Supporting the Communication Skills of Students with Severe Disabilities (Orelove & Sobsey, 2000, pp. 253-254).

1. **Maximization:** Aim towards the greatest possible increase in the frequency of appropriate communication and the utilization of all available modes. The focus should be on facilitating as many communicative interactions as we can rather than focusing on improving the quality of a few interactions.
2. **Functionality:** Focus is on social (functional) outcomes. Is the communication successful? Concerns about how a student communicates are considered important only to the extent that they interfere with or contribute to the purpose of the communication.
3. **Individualization:** Each student must have a communication program designed to meet her needs. No one mode, approach or device can be expected to be ideal for all children with severe disabilities. Each person is unique.
4. **Mutuality:** Communication requires two partners. Assessment and intervention must be aimed at both partners and the social and physical context that surrounds their interactions. It is possible to teach sounds, words, or sounds in isolation but making sounds or hand shapes is not communication unless it occurs as a functional part of a dynamic interaction with another person.
5. **Normalization:** The patterns of communication common to people in the community should be taught to students with severe disabilities unless a modification can be justified as a benefit to the student. Unless students learn to use communication forms that are compatible with those used by other community members, communication will be difficult or impossible.

Alternative and Augmentative Communication

Each of us uses a variety of modes and systems to communicate. For example, if a person says she "speaks English" what she is saying is the she uses English to communicate by listening to and saying English words. She also reads English words, understands common photographs, line drawings and symbols. She probably also has some skill at reading other peoples expressions and body language, uses contextual cues to figure out difficult to understand situations, and gains valuable information and gives comfort through touch. Students with severe disabilities also send and receive information in a variety of ways using a variety of systems. For some students, speech may not be their primary mode of communication.

An **alternative mode of communication** is a mode other than speech. A student who is deaf for example, cannot hear speech sounds and therefore, making speech sounds to communicate will be very difficult. Communicating through manual signs is an alternative to speech. A child with a physical disability that effects his vocal cords or the ability to move his tongue might not be able to make speech sounds. In this case using an electronic communication device might be the alternative mode of communication.

Augmentative communication is using another mode to enhance a person's communication so she can be understood by a wider audience. For example, a person could use speech as her primary mode of communication even though her speech is very hard to understand. People who know her can understand her speech, but when she tries to communicate with a person what does not know her well, she needs to use written words, pictures, symbols or gestures to help the unfamiliar person to understand. A good example, is an English speaker going to dinner in Quebec City and finding the waiter does not speak English! A French/English dictionary might come in handy as a tool to augment spoken language.

Electronic Systems use movements already in the person's repertoire and transform them to more interpretable communication responses. For example, a series of puffs and sucks on a mouth piece can be transformed into a written or spoken word.... An electronic system has an input mode, an output mode and a processor that converts the available input into the desired output." (Orelove & Sobsey, 2000, pp. 265). For example, a simple talking picture frame which can be purchased at a local store can function as an electronic system for a student. A picture of a swing set can be placed in the frame and a recorded message ("I want to go out and play.") can be recorded by a classmate. When the student wants to go outside, he touches the picture and his classmates recording is played for his communication partner to hear. Electronic communication systems are getting more elaborate and more accessible to children with disabilities due to drops in price and increased portability in electronic components. Low-tech devices and homemade materials are still good alternatives for many students with severe disabilities. The decision to try an electronic system and to then select a device for a particular student must be made on an individual basis with student, family and professional input.

References

Siegel, E., & Wetherby, A. (2000). Non-symbolic communication. In M. E. Snell, & F. Brow,n (Eds.), *Instruction of students with severe disabilities.* (5th ed.). (pp. 400-450). Upper Saddle River, NJ: Prentice-Hall.

Orelove, F. P. & Sobsey, D. (1996). Communication skills. In F. Orelove & D. Sobsey. (Eds.), *Educating children with multiple disabilities: A transdisciplinary approach.* (pp. 253-299). Baltimore, MD: Paul H. Brookes.

Quick-Guide #8

Communication Systems in the Classroom

Janet M. Duncan and Patricia A. Prelock

Quick-Guides to Inclusion 2: Ideas for Educating Students with Disabilities

Michael F. Giangreco, Ph.D.
Series Editor

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Dear Teacher,

Sometimes people make incorrect assumptions about a person with a disability because he does not speak in a typical way. Just because someone does not speak does not mean that he does not understand or that he has nothing to say. Some students with disabilities require specialized systems or devices to communicate. These ways of communicating are called **augmentative and alternative communication**, or AAC.

AAC includes pointing, gesturing, and eye gazing, as well as using sign language, letterboards, picture symbols, drawings, photographs, keyboards, computer-generated speech, and other forms of computer assistance. Some students use AAC to augment their speech, whereas others use it as an alternative to speech. Some students use more than one type of augmentative system or a combination of systems, depending on the situation and their communication partner.

Whatever system a student uses, it is important for you to become comfortable with it and to know how to communicate with the student. This will require getting to know the student and the unique aspects of the student's communication system. These guidelines will help you think about strategies for including students who use AAC in class routines so that they always have opportunities for communication, both receptively and expressively. As you become more knowledgeable about your students' communication, you can share what you have learned with your other students so they can become skillful communication partners in both academic and social situations. It is important to remember that using AAC is simply another way for a student to communicate.

Good Luck!

Janet and Patty

GUIDELINES-AT-A-GLANCE

1. Learn About Each Student's Preferred Communication
2. Provide Each Student with the Necessary Supports to Communicate
3. Create a Communication-Friendly Environment
4. Make Sure Each Student Has a Way to Communicate at All Times
5. Involve Classmates as Communication Partners
6. Honor Your Student's Communication
7. Use Natural Experiences and Direct Teaching to Foster Communication
8. Avoid Becoming Overly Dependent on High-Technology Devices
9. Update Communication Systems Frequently
10. Evaluate Communication Progress

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Learn About Each Student's Preferred Communication

Verbal communication is not the only way that individuals let us know what they want to say. All behavior, including body language, communicates messages. Most typical speakers use these modes of communication to enhance their verbal messages. A student who does not use speech as her primary means of communication may point, look, gesture, sign, or use a variety of symbols (e.g., objects, pictures, printed words) to convey her message. It is important to learn your student's communicative strengths and preferences because communication systems selected for individual students should capitalize on strengths and increase potential for becoming independent communicators.

When selecting a student's communication system, the first step is to identify his level of communicative intent. You need to know that if he attempts to communicate, the resulting message is what he desired or intended to convey. The student's level of understanding is another critical factor during the selection of both expressive and receptive modes of communication. (In addition, you should always be attuned to changes in the student's comprehension.)

When selecting a communication system, you and the other team members should look for a device that is portable and that has symbols with a high degree of **iconicity.** Iconicity refers to how much a symbol looks like what it represents (Lloyd & Blischak, 1992, p. 106); a highly iconic symbol resembles its referent closely. Portability and iconicity will allow the student to participate, with little delay, in communicative interactions. The communication system should also be accessible to a variety of communication partners, including both peers and adults.

Once a communication system is selected, it requires timely programming so that vocabulary can be expanded and/or curricular themes can be incorporated. Effective implementation of any communication system requires the thoughtful reflection of a team of individuals, including the child and his parents, the general classroom teacher, special educators, and AAC specialists. As a team member, make sure you know the basics about your student's communication so that you can select and implement the most effective AAC system.

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Provide Each Student with the Necessary Supports to Communicate

To effectively use a communication system, a student who uses AAC may need various forms of assistance, such as physical or sensory support, another person's guidance, or attitudinal support. Your student may need any or all of these supports depending on his individual needs and the situation.

Physical or sensory support is particularly important for a student who has coordination, mobility, hearing, or vision impairments. Your first step should be to make sure your student is comfortably positioned in a way that allows her to communicate. Sometimes parents or special education staff can recommend warm-up exercises to improve mobility or tips to maximize sensory capabilities.

A variety of AAC team members (e.g., physical and occupational therapists, speech-language pathologists, special educators, vision and hearing specialists) may be especially helpful in determining appropriate physical or sensory supports or equipment. They may notice small but important environmental factors that can make a difference in a student's ability to communicate (e.g., seat height, lighting, background noise, position of materials, tactile characteristics).

A classmate or adult may have to help the student use his communication system. For example, the student may need help to turn on a computer or to access the software. She may need a communication partner who knows the communication system (e.g., American Sign Language). Other students may need physical prompts, assistance, or guidance when communicating.

Physical and sensory supports are best enhanced by an atmosphere of attitudinal support whereby the students' communication partners constantly encourage and respect communication and approach the person as a competent communicator. Such attitudinal support is necessary even in situations in which it is unclear whether the student understands the entire exchange; this is the "least dangerous assumption" that you and other communication partners can make (Donnellan, 1984, p. 141).

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Create a Communication-Friendly Environment

Developing an awareness among other students and school personnel of the AAC system used by your student is the first step you can take to create a communication-friendly environment. In other words, helping all of your students and school staff achieve a level of familiarity with the AAC system makes its use become ordinary and typical.

In classrooms that are naturally language-rich environments (e.g., classrooms that have language experience charts, interactive bulletin boards, predictable stories, or big books), AAC system use should be built in to all those naturally occurring opportunities to use language. Students who use AAC systems will benefit from exposure to print and spoken language, whereas students without disabilities will learn valuable communication and social skills by interacting with a classmate using AAC (e.g., active listening, turn taking). Teachers can model these skills for students through their daily interactions.

Teachers can show all students alternative ways to communicate, including but not limited to use of the student's AAC system. You might ask students "How can you communicate your ideas other than by speaking or by writing?" All students can be encouraged to use aids such as computer graphics, gestures, or dramatic presentation to augment their spoken and written communication. Such approaches can help you identify each of your students' preferred learning styles. You can also teach your students sign language or other ways to communicate.

By modeling the value and use of a student's AAC system, you can set a powerful example for your students. As students develop an understanding of the AAC system, their sense of community with one another will grow along with their acceptance of the student who uses the system.

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Make Sure Each Student Has a Way to Communicate at All Times

Imagine how frustrating it would be if you were not able to communicate, even for a brief period of time. This is why it is imperative that students who rely on AAC systems to communicate have access to their own system or a back-up system at all times.

Although speech, gestures, and sign language are examples of communication systems that do not require special equipment, some students who use AAC do need devices to communicate. Sometimes this equipment can be as small and technologically basic as a **communication wallet** with photographs or drawings. At other times it can be as sophisticated and technologically advanced as an individualized computer system. Portability is always a concern when selecting a communication system because a highly portable system allows the student to have access to a means of communication at all times. The less portable the system, the greater the likelihood that it will be left behind, for example, when the student leaves the classroom to go to the cafeteria, to the playground, to the gymnasium, or on field trips.

Even when a student effectively uses a communication device, it is crucial to develop back-up systems for times when the device is forgotten, misplaced, or broken. To prevent gaps in communication, it is valuable to encourage the student to use multiple communication methods. For example, a student who uses a voice-output keyboard may opt to carry a small laminated letterboard in a pocket folder. Other back-up systems may involve hand signs, vocalizations, picture symbols, gestures, or eye movements. Using multiple ways to communicate encourages the student to use speech when he can or in situations in which it is appropriate. For example, a student may first try to communicate by using speech. If his communication partner does not understand him, he can use augmentative or alternative approaches to make his meaning more clear (e.g., pointing to an object or picture, miming an action, drawing a picture).

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Involve Classmates as Communication Partners

If a student is to communicate successfully using an AAC system, it is imperative for her to have as many communication partners as possible. Classmates are invaluable as willing communication partners. Sometimes, when a student is learning to use an AAC system, teachers tend to think of the process as something very specialized to be addressed only by a speech-language pathologist or special educator. This need not be the case. Students want and need to communicate with other students, and these interactions are essential for developing social relationships and for enhancing self-image. By communicating with one another, students learn so much from each other.

You can support students who use AAC by helping their classmates learn the communication system. You can share information about the AAC system early in the school year. A detailed explanation of AAC is not necessary; rather, explain to the students how the individual communicates best. The student who uses AAC and his parents can help by demonstrating for classmates how the AAC system works. Throughout this process, it is important to maintain the student's dignity and respectfully handle his AAC system.

Students may choose one or two classmates to whom they will teach their system first and expand from there. You can help by modeling effective communication interactions on several occasions and by providing opportunities for communication before assuming the students are capable partners for the individual who uses AAC. At the same time, give students the privacy and space to interact without always being "shadowed" by adults. Peers often become advocates for each other, and this is especially important for students who use AAC. You may find that peers are just as knowledgeable as the school staff about the student and her AAC system.

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Honor Your Student's Communication

Regardless of how simple or sophisticated the AAC system is, it is important to honor the communication expressed by the student who uses the system. At its most basic level, this means responding to his communication. For example, if the student requests a drink by pointing to a cup on his communication board, the strongest response would be to provide a drink immediately. At the early stages of learning, you want the student to understand that using the AAC system is a powerful tool for affecting his personal world. You may not always like or agree with what a student has to say. It is crucial, however, for the student to know that you hear and respect his communication.

Sometimes circumstances will not permit you to address every request in such an immediate manner. In these cases, you should acknowledge the student's request and address it as soon as possible, at which time you should use the AAC system again to teach the connection between system use and the response to the request.

Honoring a student's communication also requires you to make sure that she has communication partners. Sometimes students who have communication boards on their lap trays make silent selections that no one notices, and their communication is not acknowledged. If people are not always present to notice these types of expressions, the student may need a signaling device to get the attention of a communication partner.

Finally, it is important for you to provide privacy for communication because many forms of AAC are highly visible and can be seen and understood by others without the AAC user's approval or knowledge. It is also important for communication partners to assist the student in selecting privacy if needed, for example, by being aware of the orientation of the communication display in relation to other people. You should also allow privacy for written communication, such as by deleting messages from computer screens, shredding printouts, or putting printed communication in a folder marked ***confidential.***

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Use Natural Experiences and Direct Teaching to Foster Communication

To learn to use a communication system effectively, students and their communication partners need naturally occurring opportunities to communicate and also require direct teaching and practice. An AAC specialist can help the team identify these natural opportunities as well as provide support regarding direct instructional approaches. For example, some students will need extra cues or prompts, help responding to natural cues, or intensive practice. This doesn't necessarily mean that a specialist will always deliver the instruction. A specialist's help, however, is appropriate at certain times because merely providing a student with an AAC device or system is not enough. The team will decide which approach works best for each student and who should provide instruction for various parts of the learning process.

Students need instruction to learn the system and real opportunities to use their communication skills. This instruction and application can occur concurrently. Too often students are required to learn skills in isolation before they can apply these skills in more natural contexts. Learning in isolation is undesirable because more natural settings can provide students with important motivations and feedback for learning.

You can expand and adapt a student's communication system to the natural environment in several ways. You could show a student how to use his system in a new context or activity. You could introduce a new communication partner. You could add new content to the system so that a child participates more frequently in a variety of school activities. The level of assistance provided to the student might also be reduced. Ultimately, the goal is for a student to independently access an augmentative communication device or communication system of choice and utilize the power of the device or system to establish communication with as many communication partners as possible.

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Avoid Becoming Overly Dependent on High-Technology Devices

High-technology devices have many positive features that make them attractive options for certain students. Some of these notable features include voice, print, or braille output; reprogramming capability; portability; expandability; large capacity; and switch activation (e.g., by pressing or touching the switch with any controllable body part, by tilting a mercury switch, by coming close to a magnetic or temperature-sensitive switch, by sipping or puffing on a pneumatic switch, by moving a light beam on a head switch). In today's computer-saturated society, however, it is important to remember that although high-technology AAC systems offer highly desirable features and are getting easier to use all the time, they may not be right for every student who uses AAC.

With high-technology equipment come correspondingly high-technology problems. Team members must become well-versed in troubleshooting in case something goes wrong—and it will. We don't want to discourage you from getting involved with high-technology AAC systems, but you should understand that there are limitations for which advance planning is essential. Often replacement parts can be costly, and the time needed to repair a broken device can be extensive. Many AAC users cannot afford a second high-technology back-up system. When their primary systems fail, however, they still need to communicate.

Overreliance on technology for communication can thus leave high-technology AAC users without a viable means of communication, so it is essential to have inexpensive alternatives such as low-technology AAC systems that can be put in place quickly as a temporary measure. Back-up systems should be ready for use before a high-technology breakdown occurs. If your student uses a high-technology AAC device, ask the speech-language pathologist or special educator whether a back-up system is in place so you can learn about it or so one can be developed.

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Update Communication Systems Frequently

Communication systems are dynamic in nature and need to be expanded and modified over time. The needs and interests of students continually change (e.g., topics of interest, classes, friends, current events, hopes, dreams, experiences); therefore, the AAC system must change accordingly. AAC systems can be expanded so a student can engage in a variety of communicative functions such as greeting people, making requests, making choices, answering or asking questions, saying "yes" or "no," describing objects, commenting, relating experiences, offering opinions, expressing emotions, and conversing.

As a student gets older, the symbol choices and styles should match the student's chronological age and incorporate local slang or popular phrases. Also, the symbols should reflect the personality, cultural traditions, and perspective of the student. If the student's team does not attend to these concerns, there is the danger that the symbol system will more closely reflect the communication preferences of adult members of the team rather than those of the student.

You and other adults may have to offer support during the process of updating the AAC system. Updating may also require the student to learn new skills (e.g., expand symbol repertoire). In most cases support is provided by others at the same time that the student learns new skills. If a student makes extremely good progress with one type of symbol system, she may need to switch to a more sophisticated system. For example, systems that use pictures or drawings offer a limited number of possible messages, depending on the availability and quantity of the symbols, whereas systems based on the alphabet provide the greatest degree of communicative freedom. With an alphabet-based AAC system, the possible message combinations are limitless. Often updates and expansion include both the alphabet and word signs or symbols such as communication boards that include the alphabet plus commonly used words.

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Evaluate Communication Progress

Whichever communication system is selected for a student, it is important that you and other team members systematically evaluate the impact of the AAC intervention program and the student's communication progress across a variety of situations. Following are 10 questions to ask when evaluating the AAC system:

1. How often does the student access the communication system?
2. In what contexts does the student use the communication system?
3. When does the student experience the most successful communication attempts?
4. What is the student and his or her peers' interest in utilizing the communication system in academic and social contexts?
5. What other systems of communication does the student use, and how effective are these systems?
6. What is the classroom teacher's level of involvement in helping the student improve his or her communication abilities?
7. How is the curriculum adapted for and integrated into the student's augmentative communication system?
8. In which situations has communication failed between the student and his or her peers when using the communication system?
9. Which are the most effective supports currently being used to ensure communication success?
10. What are the perceptions of teachers, peers, and the student regarding the effectiveness of the communication progress?

You can use ongoing evaluation to monitor student progress and teaching effectiveness. Most important, evaluation is a tool that you can use to determine the impact of communication on a student's life.

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Musslewhite, C., & King-DeBaun, P. (1997). *Emergent literacy success: Merging technology and whole language for students with special needs.* Birmingham, AL: Southeast Augmentative Communication Conference Publications.

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Unit 2 Activity Sheets

Augmentative and Alternative Communication

Activity Sheet #2

How Can We Help? Worksheet

Communication Issues	Is it an Issue for my student?	What can I do to help? My Ideas
Needs More Time to process, to organize thoughts or to respond	Yes No	
Needs Consistent Access to materials (communication book or board) or a device.	Yes No	
Needs More Requests Honored Are we listening to what the student is telling us and honoring his or her requests (e.g., to continue an activity, to stop an activity, for help, for time, for access to materials or people).	Yes No	
Needs More Opportunities to Use Communication Skills Are we creating opportunities for the student to use the skills he or she is learning?	Yes No	

Unit 2 Forms

Augmentative and Alternative Communication

- Knowledge Review
- Cooperating Teacher Practicum Summary
- Evaluation Form

Knowledge Review Unit 2: Augmentative and Alternative Communication

Name: ______________________________

Date: ______________________________

Site: ______________________________

Instructor: ______________________________

Directions: Read each question and circle the letter corresponding to the one item that you think is the best answer.

11. Which of the following are examples of non-symbolic communication:
    a) an adult smiling because she is happy
    b) a child pointing to a word printed on a communication board to indicate that he wants to go outside and play
    c) a 5th grader reading *Harry Potter*
    d) a child signing the word "cracker"

12. Which of following are examples of using situational or context cues to understand a persons non-symbolic communication:
    a) a school fire alarm goes off and a student begins to cry
    b) a student asks for a drink of water
    c) a student asks a question during math class
    d) a student punches a classmate on the arm after the classmate cut in front of him
    e) a and b only
    f) a and d only

13. The form of communication refers to:
    a) the general category of behavior used to communicate
    b) the actual movements we use to communicate
    c) how we use communication to meet our needs
    d) how we shape words with our lips and tongue

14. Which of the following statements are true:
    a) a student with a severe disability that has great difficulty expressing herself may have a very well developed receptive language system
    b) Some children with severe disabilities do not communicate
    c) a student's challenging behavior (e.g., hitting, crying, running away) is a form of communication.
    d) a and b only
    e) a and c only

15. Alternative and augmentative communication includes:
    a) pointing, gesturing and eye gazing
    b) sign language, picture symbols, computer generated speech
    c) speaking or writing
    d) all of the above
    e) a and b only

16. Which are important for developing a communication-friendly environment:
    a) developing an awareness among students and school personnel of the communication system used by the student
    b) teachers that model for their students how to interact and communicate with their classmate with a severe disability
    c) teachers who provide activities during which students must communicate their ideas in ways other than by speaking or writing
    d) all of the above
    e) a and b only

17. Intentional behavior:
    a) is goal oriented /purposeful behavior.
    b) is random behavior that means very little
    c) is how newborns communicate
    d) all of the above

18. When a student is learning a communication system it is important to:
    - a) help the student as much as possible so they do not need to communicate as much
    - b) create opportunities for the student to use her communication system across the school day with a variety of communication partners in a variety of settings
    - c) ask other students to ignore the students requests unless she uses her new system
    - e) limit the students access to the new system except for during 1:1 teaching times

19. When a student communicates non-symbolically it is important to:
    - a) develop a relationship with the student
    - b) take the time to really look at and listen to the student
    - c) look for contextual cues to help you interpret the students communications
    - d) all of the above

20. Augmentative communication:
    - a) is using a blow horn so that our words are louder
    - b) is learning to speak French prior to taking a trip to France
    - c) is using another mode (along with a primary mode of communication) to enhance a person's communication so she can be understood by a wider audience
    - d) all of the above

Cooperating Teacher Practicum Summary

Unit 2: Augmentative and Alternative Communication

I. Brief Summary of the Unit

This unit provides the participants with knowledge about augmentative and alternative communication for students with severe disabilities. The unit covers several key concepts related to communication development and ways that paraeducators can be helpful in facilitating communication with students with severe disabilities.

The key concepts addressed in Unit 2 include:

- Communication function or pragmatics
- The form and mode of communication
- Symbolic versus nonsymbolic communication
- Intentional behavior
- Receptive and expressive communication
- Alternative modes of communication
- Augmentative communication

II. Practicum Requirements

1. With the help of the cooperating teacher, special educator or speech - language pathologist, the paraeducator will select a student with a severe disability who also needs to augment her communication or to use an alternative mode of communication.

The paraeducator will answer the following questions about the selected student:

a. What is the student's primary mode of communication?

b. Does the student use other modes of communication? What are they?

c. Does the student communicate symbolically? Give an example to support your answer.

2. The paraeducator will meet with the cooperating teacher, special educator or speech - language pathologist to discuss the student's current communication system. Following the discussion, the paraeducator will complete the following matrix.

List each major communicative function (e.g., accepts, rejects, asks questions, names items) used by the student. For each function list the various modes the student uses to communicate the function (e.g., vocal, gestural, tactual) and sample forms (e.g., says "I want", points to) that the student uses within each listed mode.

Communicative Functions	Various Modes Used by the Student	Sample Forms for Each Mode Listed

3. The paraeducator will meet with the cooperating teacher, special educator or speech - language pathologist and review the “How Can We Help” activity sheet completed during class. (Note: If the activity sheet was completed for a different student during class, the paraeducator will have to complete a second sheet for the student selected for this practicum prior to meeting with the cooperating teacher). Each portion of the worksheet should be reviewed and revised as needed. When the worksheet is finalized, the paraeducator and the cooperating teacher, special educator or speech - language pathologist should select one idea from the worksheet that the paraeducator will implement with the student for five days. At the end of the five day period, the cooperating teacher, special educator or speech - language pathologist and the paraeducator should again meet and discuss how the ideas worked out. Following the discussion the paraeducator should answer the following questions:

a. What was the idea you tried?

b. Were you able to implement the idea? How hard was it?

c. How would you rate the idea in terms of how helpful it was to the student (circle one)?

1 = not helpful   2 = neutral   3 = helpful

Why do you feel this way?

d. Does the team think it is a good idea continue to implementing this idea with the student? Why or Why not?

Note to the Cooperating Teacher: It may be helpful for you to review the required readings for this unit. The readings are available in the paraeducator's Participant Manual.

Unit 2 Evaluation Form
Augmentative and Alternative Communication

Participant name (optional): ______________________ Date: ________________

Directions: Please check the box next to the statement that best reflects your opinion regarding the following questions.

1. How **important** were the objectives for this unit?
   - ☐ very important
   - ☐ important
   - ☐ somewhat important
   - ☐ not important

2. How **relevant** were the required readings for this unit?
   - ☐ very relevant
   - ☐ relevant
   - ☐ somewhat relevant
   - ☐ not relevant

3. How **understandable** were the required readings for this unit?
   - ☐ very understandable
   - ☐ understandable
   - ☐ somewhat understandable
   - ☐ not understandable

4. How **useful** were the activities for this unit?
   - ☐ very useful
   - ☐ useful
   - ☐ somewhat useful
   - ☐ not useful

5. How **understandable** were the activities for this unit?
   - ☐ very understandable
   - ☐ understandable
   - ☐ somewhat understandable
   - ☐ not understandable

6. How would you rate the **quality** of the materials for this unit?
   - ☐ very high quality
   - ☐ high quality
   - ☐ fair quality
   - ☐ poor quality

7. How **relevant** were the practicum requirements for this unit?
   - ☐ very relevant
   - ☐ relevant
   - ☐ somewhat relevant
   - ☐ not relevant

8. How **understandable** were the practicum requirements for this unit?
   - ☐ very understandable
   - ☐ understandable
   - ☐ somewhat understandable
   - ☐ not understandable

9. What was the most important or useful thing that you learned from this unit?

10. Please use the rest of this page to make suggestions for improving the objectives, required readings, activities, and practicum requirements for this unit.

Unit 3:

Health and Safety

Timothy J. Fox

Participant's Overview

Unit 3: Health and Safety

Brief Description of Unit

This unit provides an overview of the general health and safety issues pertaining to students with severe disabilities. Paraeducators will also gain information about basic guidelines for safely transferring, lifting, positioning and assisting the movement of students who require such assistance. Guidelines for assisting a student who uses a mobility device (e.g., a wheelchair) will also be covered.

Hours of Instruction (In class format)

3 hours

Unit Objectives

Key: K = Knowledge, S = Skill (Knowledge objectives are addressed through reading and class activities; skill objectives are addressed through practicum activities)

1. Paraeducators will be aware of general health and safety issues pertaining to students with severe disabilities. (K)

2. Paraeducators will know basic guidelines for safely assisting a student who uses a mobility device (e.g., wheelchair). (K)

3. Paraeducators will know basic guidelines for safely lifting, transferring, positioning, and assisting the movement of students who require such assistance. (K)

4. Paraeducators will demonstrate their knowledge of health and safety issues pertaining to students with severe disabilities. (S)

Preparing for and Implementing the Unit

Required Readings: (located only in the Participant's Manual)

Ault, M. M., Rues, J. P., Graff, J. C.., & Holvoet, J.F. (2000). Special health care procedures. In M. E. Snell & F. Brown (Eds.), *Instruction of students with severe disabilities.* (5th ed.), (pp. 245 - 290). Upper Saddle River, NJ. Prentice-Hall.

Giangreco, M. F., McEwen, I., Fox, T., Lisi-Bake, D. (2002). Assisting students who use wheelchairs: Guidelines for school personnel. In M. Giangreco (Ed.), *Quick-guides to inclusion 3: Ideas for educating students with disabilities.* Baltimore, MD: Paul H. Brookes.

Rainforth, B. & York-Barr, J. (1996). Handling and Positioning. In F. P. Orlove & D. Sobsey, (Eds.), *Educating children with multiple disabilities: A transdisciplinary approach* (3rd ed.), (pp. 79-118). Baltimore: Paul H. Brookes.

Participant Preparation for the Unit:

- Read the required readings **prior to class**
- Write two questions based on required readings for discussion in class that are relevant to you and your situation.
- Bring writing materials for note taking and activities to class.
- Review Practicum Requirements for Unit 3.
- Bring your Participant Manual to class.

Practicum Requirements

This unit has three required practicum activities which are designed to be completed at the end of the course. The paraeducator and cooperating teacher will collaborate to complete those activities. A practicum checklist of the activity to be completed and skills to be observed is found at the end of the manual. In the event that a practicum requirement is not appropriate for a paraeducator's specific situation, an alternate activity may be substituted based on negotiation with the cooperating teacher. The negotiated requirement must be approved by the course instructor.

Evaluation of Participant Learning

Participants are evaluated in three ways: (1) *knowledge review* quiz, (2) attendance and participation in class activities, and (3) completion of practicum requirements. In order to facilitate learning of required readings, participants will take the *Knowledge Review* quiz at the end of each class session and will receive immediate feedback in class. Participants are encouraged to review questions before class so they can be aware of them during class. This can improve a participant's success on the quizzes .

Suggested Supplemental Resources

Books and Articles:

Bleile, K. (Ed.). (1993). The care of children with long-term tracheostomies. San Diego: Singular.

Jaeger, D. L. (1989). *Transferring and lifting children and adolescents: Home instruction sheets.* Therapy Skill Builders. Tucson: AZ.

Mayall, J.K. & Desharnais, G. (1995). *Positioning in a wheelchair.* (2nd edition). New Jersey: Slack, Inc.

Cerebral Palsy Information Central
http://geocities.com/aneecp/index2.htm

Epilepsy Foundation of America
http://www.efa.org/

Physical Therapy Devices
http://www.physical-therapy-devices.com/

Videos:

Feeding & Swallowing: The impact of proper positioning and handling on feeding. (1990). The University of Nebraska Medical Center, Meyer Rehabilitation Institute. Omaha, Nebraska. (402) 559-7467.

Positioning for infants and young children with motor problems. (1987). Distributed by Learner Managed Designs, Inc. Lawrence, Kansas. (913) 842-9088.

Feeding infants and young children with special needs. (1989). Distributed by Learner Managed Designs, Inc. Lawrence, Kansas. (913) 842-9088.

CPR and emergency procedures for choking for infants and young children. (1987). Distributed by Learner Managed Designs, Inc. Lawrence, Kansas. (913) 842-9088.

Positioning and transferring students with severe disabilities. (1993). Madison Metropolitan School District. Madison, WI.

Unit 3 Required Readings

Health and Safety

The required readings for this unit are quite large and are intended as reference resources. Rather than reading every work, it is expected that participants will skim the material. The materials begin with a very comprehensive reading on special health care procedures (Ault, Rues, Graff, & Holvoet; 2000). Each topic includes basic information about the topic along with applications for the classroom and lists of further resources for more in-depth information. The second article (Giangreco, McEwen, Fox, & Lisi-Baker; 2002) provides information important for assisting students who use wheelchairs. The final article (Rainforth & York-Barr; 1996) provides information on handling and positioning students with severe disabilities.

Source: In *Instruction of students with severe disabilities*. Martha E. Snell & Fedda Brown (eds.), 2000. Upper Saddle River: Merrill. Reprinted with permission.

7

Special Health Care Procedures

Marilyn M. Ault
Jane P. Rues
J. Carolyn Graff
Jennifer F. Holvoet

Students with special health care needs are similar to all other students in terms of their right to an appropriate education in the least restrictive environment, with full family participation. The presence of special health care needs, however, requires additional accommodations in the educational setting. This is best accomplished by training educational staff in the knowledge and skills needed to manage these procedures at school.

Mark was not surprised when he learned that a student enrolling in his class next year would have special health care needs. He had become accustomed to "looking out" for a variety of his students' needs over his 8 years of teaching fifth and sixth grade math and science. In the past he had encountered several medical situations, even emergencies, which had taken him to the emergency room with some students. The episodes that most clearly taught him the necessity of proper training and support resulted from the near death of two students during his fourth and fifth year of teaching. During a spring field trip to gather water quality samples a student was stung by a bee. While Mark was removing the stinger, the student moved rapidly through the stages of anaphylactic shock. Mark was able to call an emergency medical technician (EMT) on his cell phone and arrange to meet an ambulance on the way to the hospital.

The second emergency didn't even occur off campus. During the hot days at the beginning of school, a student returned to his class from playing soccer during gym. It soon became evident that the child was in respiratory crisis. Mark was able to retrieve the student's inhaler from his gym bag and call for EMT assistance. It became very clear to Mark that the outcomes of these situations would not have been so positive had he not been knowledgeable about first aid, known about the medical status of his students, and had a good relationship with the EMT at the local hospital. More typical issues surrounding health care occurred throughout the years including medication administration, burns and wounds, and allergies. Mark felt quite confident that he was prepared to handle any health-related condition.

During the past 3 years of teaching, Mark's school had actively moved towards the practice of full inclusion for all children. Children with a range of disabilities had been enrolled in his classroom and he enjoyed the challenge of including them in science and math activities with their more typical peers. Mark felt he was a contributing part of a team trying to determine how the math and science content could be taught in a way that would be meaningful for their lives. With the support from the consultant teacher, he felt positive about his efforts and their results. Now he was presented with the challenge of including a student with severe cognitive disabilities who also used a wheelchair to navigate around the building and his classroom. He had dealt with children having both these conditions before. This child, Liz, also used a colostomy bag. Mark knew that the female aide would assist the child in actually changing the bag. He did, however, have a significant role on the team planning for her full inclusion. He, and all her other teachers, had to understand her nonverbal communication indicating discomfort, have knowledge of when typical elimination might occur and how to respond, and perhaps how to integrate the needs of the health care procedure into her educational activities.

In addition to teaching Liz to count and keep track of her own supplies, Mark hoped to use the information he learned from his experience with Liz to expand some of the content addressed in his science class. Mark planned to include typical as well as atypical functioning of many of the systems of the body and how accommodations are made.

Teachers across all grade levels deal with issues surrounding the health care needs of children and youth. This chapter focuses on special health care procedures that are common across a number of health conditions or diagnoses. For example, medication administration, a very common special health care procedure, may be required for students with asthma, allergies, seizures, or constipation. Children with these conditions may also present teachers with additional procedures to be conducted in the classroom, such as oxygen supplementation, resuscitation, and monitoring of nutrition and fluid intake. Although there are also many health conditions that do not require any special health care procedures during the school day, teachers should be aware of the presence of these conditions and their potential effect on learning. Any heath-related condition may have a significant effect on a student's readiness to fully participate in educational activities.

Many students with severe or profound disabilities require the application of one, or many, special health care procedures in order to promote and maintain health (Ault, Guess, Struth, & Thompson, 1989; Graff, Ault, Guess, Taylor, & Thompson, 1990). These health care procedures tend to include seizure monitoring, medication administration, nutrition monitoring and supplementation, teeth and gum care, skin care, and bowel care. A second group of health-related procedures are present less often but may require implementation during the school day. These include nonoral feeding, atypical elimination, and respiratory management. There is also a third and relatively rare group of procedures that, while effecting student overall health and readiness, generally are not implemented in the school. These may include glucose monitoring and shunt care. This chapter introduces the basic aspects of these procedures within the context of the school day.

Each section addressing a health care issue ends with directions for where to go for further information and training. The Internet is one of the most valuable options available to educators to quickly access current and exhaustive information regarding almost any health condition or procedure. The following advice about the Internet is presented as encouragement and a general guide. We encourage use of the links listed below as well as those following each section.

Where to Go for Further Information or Training on the Internet

The Internet offers many sources of information that were not available even 3 years ago for the educator or parent wishing to address the needs of a student with disabilities. This information can be quite useful, if selected and used with discretion. When in doubt about the reliability of a site, or the veracity of the information found at a site, make sure to check with the student's primary health care provider and the health care coordinator at your school or district. You will easily be able to find, for example, information about:

1. Specific syndromes and the typical symptoms associated with these syndromes
2. Typical medical treatments used to treat certain aspects of specific disabilities
3. Alternative medical treatments that have been successful for some individuals
4. Opportunities to learn from, and confer with, other individuals who either have a specific disability, who are parents of children with that disability, or who are teaching others with the disability.

Information about Disabilities

Much information about specific disabilities (even very rare syndromes) and health care conditions can be used to ascertain the extent of the disability and associated conditions that may also need educational support. Such information can generally be regarded as accurate if published on the Internet by medical practitioners or parental support groups. The best use of the information found in this chapter, or through the Internet sites, is to allow you to ask relevant and informed questions of a parent when a student with a disability is enrolled in a class for the first time. This information can also be quite helpful in ascertaining when certain behaviors may be part of a syndrome. For example, a student receiving a certain medication may experience dryness of the mouth or lethargy. Knowing this and using the tips that other parents and educators have provided to address this problem can certainly make the education of a child more effective. Often these tips are found in discussion groups or chat rooms on Internet sites.

Most of the disability information on the Internet is written from a medical perspective and may use words unfamiliar to an educator. A good medical dictionary or talking with the parents may help clarify most of these terms. Learning the terms is a worthwhile investment for an educator. It allows clearer and more professional communication with many support staff, such as occupational and physical therapists, and also allows better communication when you wish to ask questions of parents or experts either personally or via E-mail.

Some examples of this type of material are:

1. Awesome Library (has links to different types of disabilities and health-related needs): http://www.neat-schoolhouse.org/special-ed.html
2. Blindness Resource Center: http://www.nyise.org/eye.htm
3. LD Online: http://www.ldonline.org/
4. Charcot-Marie Tooth Disorder: http://www.charcotmarie-tooth.org/
5. Prader-Willi Association (take Basic Information link): http://www.pwsausa.org/
6. Cerebral Palsy: http://www.ucpa.org/html/resources/index.html
7. Kids with Cancer: http://www.kidswithcancer.com/
8. AsthmaNet: http://www.njc.org/asthmanet/asthmnet.htm

Since the Internet is a very fluid and dynamic electronic space, it is possible that some of the web addresses provided throughout this chapter will have been moved or changed. Therefore, you should know how to search for material. Use a search engine such as ProFusion (www.profusion.com), Yahoo (http://www.yahoo.com/), Metacrawler (http://www.metacrawler.com), or Inference Find (http://infind.inference.com/infind/), and type in the keyword area or field the name of the syndrome or condition for which you want more information (e.g., asthma, shunt, nasal cannula, cancer). Use capital letters at the beginning of the words, if this is how the syndrome is typically written. Click on the search button. The search engine will work for a minute or so and then will return a list of links. Look for links that have descriptions or an address in the "location" heading of your browser that indicate the site is published by a medical establishment or a national or state association.

Medical Treatments

An educator may be interested in what medical treatments are typically encountered by those individuals with a specific disability. For example, knowing what types of medications are typically prescribed and the intended effect and possible side effects of the medication may help the educator report classroom observations that will be useful to the parents and the physician as they attempt to manage the child's medications. If surgeries are scheduled for a student, knowing more about those surgeries and what type of care the student may need when he or she returns to school may make the experience less traumatic for both. For example, if you have a student return to school in a spica cast, a specially constructed cast to restrict movement, after some hip surgery you will need assistance in determining how to both manage the student's needs and determine the student's ability. You will need to know how to manage this student's toileting without contaminating the cast and how to move or position the child safely. The parent and hospital will provide specific information about your student; general information can be found at, for example, http://www.ccmckids.org/hipspic.htm and other similar sites.

The sites that describe disabilities noted in the previous section often have sections on typical treatments, especially those that are sponsored by medical organizations or hospitals. For example, the Charlotte Institute of Rehabilitation at http://www.charweb.org/health/rehab/scin/urology.html has a whole section on bladder management that includes how the urinary system works, different types of tests the student might encounter, and the procedures and purpose of catheterization. In addition, an educator can search for specific information by using a search engine and typing in the name of the treatment (e.g., spica cast) or medication (e.g., phenytoin [Dilantin]). As a general rule, look for sites such as glossaries or patient information rather than choosing sites that are clearly geared to physicians (e.g., *The Use of Dilantin in Febrile Seizure Management*) or that are clearly personal (*Patty's Dilantin Page*) to find general information. Hospitals or pharmacies often sponsor such sites. Some good sites to start your investigation are:

1. The Virtual Hospital: http://www.vh.org/Patients/PatientsAnnotatedList.html
2. Connecticut Children's Center Patient Education Guides: http://www.ccmckids.org/ccmc2-1.htm
3. MedWeb: http://www.gen.emory.edu/MEDWEB/keyword/patient_education/neoplasms.html
4. Implant Dentistry: http://implantdentistry.com/
5. Smart Drugs Glossary: http://www.smartbasic.com/glos.drugs.dir.html
6. Internet Mental Health Medications (medical text for health professionals): http://www.mentalhealth. com/p30.html

There are also many Internet sites focusing on disabilities that are developed and operated by parents. Often these sites have information about alternative treatments for a condition. These treatments, however, are often not endorsed by the medical community and generally are promulgated by word of mouth. They typically seem to work with small subsets rather than all students with a particular disability. When looking at alternative treatment literature, be sure to read both the pros and the cons, so you are an informed reader. You should not make recommendations about alternative treatments, but you could provide information from both sides of the controversy to a family or team searching for ideas, which, of course, should be reviewed by appropriate health care professionals.

Opportunities to Confer with Others

One of the most useful options available on the Internet is the ability to easily correspond with experts about specific problems or areas where more information is needed. This can be a comfort both for the educator and the family. Most pages related to a health condition and those that are sponsored by Departments of Education or Special Education also provide links to the web site manager. By clicking on that link, filling in the E-mail form that results, and clicking on send, you can be put in touch with people who are in a position to help you maximize the positive effect of your interactions with a student who has special health needs or disabilities.

Quality Health Care and Teaching

The process of establishing quality health care in the educational setting means a commitment to (a) incorporating the special health care needs into the ongoing educational program and (b) actively preventing the development of health-related problems or conditions. This commitment must be made by the educational staff as well as the administrative personnel. Teachers, additional staff members, and related service personnel must be willing to attend to special health care procedures throughout the educational day. The building principal, general and special education teachers, director of special education, and other administrative staff members must be willing to support this commitment through the provision of necessary training, location of the classroom or instructional setting within the school building, and *availability of backup support personnel.* Collaboration among each of these key groups, including the student's family, is essential to the provision of health care that is safe, consistent, and involves the student in the implementation of the procedure. This respect and collaboration is often exemplified in a transdisciplinary team in which the unifying philosophy is a commitment to sharing information and skills among the various disciplines represented on the team. The richness of these interactions across time encourages the development of a common language and system of communication that facilitates a comprehensive understanding of a student's goals and the educational program to achieve these goals. This team model can be effective, efficient, accountable, and proactive because each team member is responsible for the goals and the opportunities throughout the school day for incidental teaching, embedded teaching, and partial participation.

Integrating Health Care Needs

The first commitment, addressing both the present education and the health requirements of students in the educational setting, confirms the willingness of teachers not to divide students' needs into separate parts and to accept the responsibility to address the educational needs of the total student. The fact that a student has a gastrostomy (i.e., has a tube inserted through the wall of the abdomen in order to receive food and fluids) or a tracheostomy (i.e., has an opening at the base of the throat in order to facilitate breathing) adds to, rather than subtracts from, situations that may provide the content or occasion for instruction. For example, a teacher must include a student's visual or hearing needs when developing an educational plan or instructional strategies. Similarly, a teacher must consider a student's need for bladder catheterization in the identification of functional skills and the development of methods to practice those skills.

At least three instructional procedures facilitate the incorporation of health-related procedures into the educational day. These include incidental teaching, embedded skill teaching (see chapter 4), and partial participation (see chapters 4 and 9). Briefly, incidental teaching is a procedure during which a teacher follows a student's initiation in identifying an interest or a need. Once the teacher has responded to the signal or initiation presented by the student, the teacher offers an opportunity to practice specific skills. Incidental teaching, usually described in the context of language instruction, can also be applied when responding to a student's need for special health care procedures. Based on an initiation from a student, the teacher can provide, for example, humidified oxygen or a tube feeding, or empty a colostomy bag.

Embedded teaching suggests that multiple skills, addressing many different goals, can be taught simultaneously. Skills involving language, reach and grasp, relaxation, and head control, often taught in small, distributed trial settings (see ch. 4), can be practiced in conjunction with the procedures used for providing oxygen, resting after a seizure, or emptying a colostomy bag.

The third educational procedure, partial participation, provides a framework for the teacher to support the student's participation in a health-related activity as an educational objective. With this approach, the student is not required to independently perform a procedure in order for participation in the procedure to be considered relevant. The student may practice many skills that are part of a special health care procedure and are contributing to greater independence. These may include grasping a toothbrush and spitting after teeth and gum care, visual fixation and swallowing during medication administration, communicating the need for position changes, or grasping the syringe and visual tracking during tube feedings.

> *Mark planned to implement a sequence in his math class that would allow Liz to keep an inventory of her medical supplies. This included sorting and counting the bags, gauze, and shields. As part of a group activity with her peers related to sets, fractions, and projections, she would also keep a weekly count of use and orders given to the school nurse. Mark would also make sure he and her teammates in the class understood her sign for the need to have her bag changed. Once she signaled her need, a peer would call the health care aide.*

Preventing Additional Health Care Problems

In addition to being committed to meeting the present needs of students, teachers must participate in efforts designed to prevent the development of further health-related problems. Problems may result

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from complications from an already identified condition or from conditions not related to any presently identified problem. The instructional day must routinely *include* procedures designed to promote the overall health of students. Implementation of special health care procedures must be a high priority in order to maintain student health as well as to contribute to the ability of students to optimally interact with the environment. Health-related procedures include adequate nutrition and hydration, cardiovascular exercise and physical fitness, frequent movement, frequent positioning or repositioning in the upright position, changes in instructional environments and materials, and access to the outdoors and sunshine.

Throughout their careers, teachers encounter students who need a variety of special health care procedures. The need for these procedures in schools occurs with varying frequencies and intensities. This chapter identifies a general body of knowledge and group of skills as "general health care procedures." It also identifies a group of procedures that are present less frequently, identified as "specialized health care procedures." Finally, some procedures seem to occur infrequently and teachers may or may not be expected to participate in their implementation. These procedures are identified as "low-incidence health care procedures." The chapter includes information concerning what is involved in the implementation of the procedures, reasons why this particular knowledge and skill are necessary in the classroom, and directions for further information or training.

What Does a School Nurse Know?

As school systems grew, it became apparent that districts needed to establish a health service system to protect all of the students attending school. Originally, the major function of a school nurse was to protect the entire student population from the spread of common disease. This involved screening for contagious diseases, immunizing students, and implementing basic health instruction in the schools (Walker & Jacobs, 1984). The role of screening for hearing and vision problems was added later.

When dealing with the needs of students who have severe disabilities, a school nurse should function as a member of a group of professionals who bring their expertise together to meet the needs of students. A teacher should not assume, however, that the school nurse would have the knowledge or skill to address all of the special health care procedures that may be required in the schools. It is not common for a school nurse to have specific knowledge or skill in the implementation of procedures such as catheterization, tracheostomy suctioning, or gastrostomy tube feedings. But given background and training, the school nurse is the most qualified member of the team to take a major role in identifying resources, training, and monitoring special health care procedures for individual students.

General Health Care Procedures

General health care procedures contribute significantly to the overall health and safety of any student in any classroom, but particularly young children and youth with severe or profound disabilities. These procedures, ***commonly needed for all students***, include infection control, cardiopulmonary resuscitation, and first aid. The procedures (a) have a broad range of application across many different settings and (b) require that all staff members having direct contact with students be skilled in their application.

Infection Control

The purpose of infection control is to prevent the transmission of disease to children and youth and, secondarily, to prevent the infection of school personnel. Infections occur when organisms enter the body and find an environment that allows them to grow and spread. Some infections, such as chicken pox and colds are an almost expected part of childhood. Other infections, such as AIDS or tuberculosis, which occur in the general public, present minimal risk in the schools if proper control procedures are followed. Infections can be caused by bacteria, viruses, fungi, protozoa, and helminths (parasitic worms). Once an infection is established, there is always a potential for transmission to others.

What Is Involved

Infection control primarily refers to the efforts of public health and school officials to prevent the initial occurrence of infection. Secondarily, it refers to efforts to prevent the spread of an already established infection. Proper immunization, before school enrollment, is the major method of infection control. Children should have begun their immunizations before entry into schools (kindergarten or preschool) and should have received the following: DPT (diphtheria, pertussis, tetanus), OPV (oral polio vaccine), MMR (measles, mumps, and rubella, or German measles), and, possibly, varicella (chickenpox). The schedules for these immunizations have been established by the Centers for Disease Control (CDC) (www.cdc.gov). Additionally, a tuberculin test is given to determine whether a child has been exposed to tuberculosis. A vaccine for *Haemophilus influenzae*, which may be present in influenza type B, is recommended for infants between 2 and 6 months of age (AAFP Recommendation, 1991). *Haemophilus influenzae* is known to cause serious infections, such as meningitis. Immunization for influenza type B is especially recommended for children attending day care centers (Andersen, Bale, Blackman, & Murph, 1986). Immunizations are given because immunity to a disease does not occur unless the child receives an immunization to stimulate production of antibodies to the disease, which is the body's defense against infection.

Infection control also involves using proper procedures to prevent the spread of infection to other children and youth, as well as educators. When a student is identified as having an infection, consultation with the school nurse and the primary health care provider is necessary to determine whether the child should remain in the classroom. If the student remains, then specific procedures designed to prevent the spread of infection without unnecessarily stigmatizing the student must be utilized. Because certain students are more susceptible to infections than others, efforts must be made to maintain or promote the health of the student with the infection as well as those students potentially exposed.

There are some viruses that may be present for varying lengths of time with no symptoms. These include, but are not limited to, cytomegalovirus (CMV), herpes virus, hepatitis A and B viruses, and human immunodeficiency virus (HIV). Preventing the spread of these infections, therefore, requires a clear understanding of how infections are transmitted. For example a child may have acquired CMV infection early in life. The virus will leave the body through saliva or urine only at certain times, with no sign that this is occurring. School policy may require, therefore, that disposable gloves be used whenever feeding or changing the child's diaper, if such a level of support is required. Because there is a risk to pregnant women, many health authorities also recommend that a pregnant staff person not work directly with a child who has CMV infection. Procedures required to prevent the spread of HIV infection and hepititis should be followed when individuals are exposed to blood, certain other body fluids (i.e., amniotic fluid, pericardial fluid, peritoneal fluid, pleural fluid, spinal fluid, cerebrospinal fluid, semen, and vaginal secretions), or any body fluid visibly contaminated with blood. Since HIV and hepatitis B virus (HBV) transmission have not been documented from exposure to other body fluids, such as feces, nasal secretions, sputum, sweat, tears, urine, and vomitus, extraordinary precautions do not apply. Extreme care procedures should be applied in dental or oral care settings in which saliva might be contaminated with blood (CDC, 1998).

Use in the Classroom

Infections can be spread through various ways, including contact with droplets that are sneezed into the air; contact with secretions from the body, such as saliva, mucus, cerebral spinal fluid, urine, feces, or blood; and ingestion of organisms in food. One can generally assume, however, that most typical contacts with a student bring minimal risk of infection if proper clean procedures are utilized.

The best way to prevent the spread of infection in the classroom is for all students and staff to use clean procedures. The simple and most effective procedure is to engage in proper hand washing, lathering hands with running water and soap. Proper hand washing should always occur after contact with diapers. This is critical between toileting episodes for each child and before handling any food or liquid. Figure 7–1 presents one description of proper hand-washing techniques. Clean procedures also involve the proper washing of school items, such as toys and teaching materials, with disinfectants before the items are shared. This is particularly true if items are mouthed, if saliva is present outside the mouth (e.g., on the hands or clothing), or if sneezing or coughing onto materials is common. For the most effective implementation of clean procedures, classrooms should be equipped with or have access to toileting and hand

FIGURE 7–1
Description of Proper Hand Washing Techniques

How to Wash Your Hands

- Remove jewelry
- Rub foaming soap all over hands especially around and underneath nails and between fingers
- Rub hands under running water and rinse
- Use paper towel to dry, to turn off faucet (if necessary), and to open door to exit (if necessary)

Note: Adapted from Centers for Disease Control [1985]. *What you can do to stop disease in child day care centers.* Atlanta: Department of Health and Human Services.) (Obtain through your local or state department of health or write to: Public Health Advisor, Center for Professional Health and Training, Centers for Disease Control, 1600 Clifton Road, Atlanta, GA 30333.

washing areas that are separate and distinct from food preparation areas.

Where to Go for Further Information or Training
Local health departments and local hospitals with departments or designated individuals responsible for infection control can be contacted for additional information. Many local hospitals are establishing web pages for reference to immunization schedules and infection control procedures. The Centers for Disease Control and Prevention (*www.cdc.gov*) and the American Academy of Pediatrics (*www.aap.org*) provide information and guidelines about infectious diseases, symptoms, modes of transmission, and strategies for prevention.

Cardiopulmonary Resuscitation

Cardiopulmonary resuscitation (CPR) is an emergency procedure used when breathing, or breathing and pulse, have ceased. CPR is not considered a routine procedure for classroom implementation; rather, it is an emergency response. A presentation of CPR is included within the context of this chapter only to provide general information about the procedures. All teachers should receive yearly certification in CPR and should not attempt intervention without current endorsement. CPR, while potentially life sustaining, may easily result in serious injury and death if not performed correctly (American Academy of Pediatrics, 1993; ParasolEMT, 1998; Sommers, 1992).

What Is Involved
The three basic rescue skills of CPR include opening the airway, restoring breathing, and restoring circulation. The rescuer provides oxygen and, if the heart has stopped, simulates the heart's pumping action through external compression of the chest. It is rare, however, that CPR alone will save a life. CPR applied immediately upon discovery of a casualty and sustained until more advanced life support arrives is the key to saving lives (American Heart Association, 1987). Teachers should be trained in all CPR procedures associated with the ages of the students they teach. Separate procedures have been developed for infants, children, and adults. The procedures briefly described here are for students from 1 to 8 years of age. The procedures for students over 8 years of age of typical size are the same procedures as for adults (see American Heart Association, 1987, for the procedures for adults).

Opening the Airway. Indications that intervention may be necessary are unconsciousness, pupils fixed and dilated, and absent pulse and respiration. When a student is suspected of having respiratory or cardiac arrest, the recommended procedure is to first make an attempt to rouse the student by gently shaking his or her shoulders and shouting "[name], are you okay?" After the attempt to arouse the student is unsuccessful, first call for help. Second, position the student on his or her back, carefully supporting the head and neck in case of injury. Third, open the airway by tilting the student's head backward and lifting the chin.

Restoring Breathing. Determine if the student is still breathing by looking for the rise and fall of the chest and listening and feeling for a breath while holding the airway open. If there is no breath, give the student two breaths using mouth-to-mouth contact, while holding the student's nostrils closed.

Restoring Circulation. Determine whether a pulse is present by feeling for the carotid pulse (on either side of the student's throat, near the Adam's apple), while tilting the head to open the airway.

If the pulse is absent, position your hands in relation to the heart and begin repeated compressions of the chest in a specific rhythm. It is critical that your hands are positioned correctly in relation to the child's heart. If not, the chest compression will seriously damage other vital organs (ParasolEMT 1998). The hands should be located on the lower half of the sternum and compressions are performed at a depth of 2 to 3 centimeters, using the heel of one hand only. Continuously repeat the routine cycle of five chest compressions to one breath, periodically checking for the pulse as long as the pulse is absent and until an emergency medical services (EMS) team arrives. If the pulse returns, check for spontaneous breathing. Give one breath every 4 seconds as long as there is no spontaneous breathing. If the student begins breathing spontaneously, remain beside the student to monitor the breathing and pulse (American Heart Association, 1987). If other persons arrive to assist, they should first contact the EMS team before taking turns in the CPR process, in order to insure that medical assistance arrives as quickly as possible.

Managing an Obstructed Airway. If the student appears to be choking, identify if the airway is completely obstructed by determining if the student can speak or cough. If the student can do either, do not interfere with the student's attempts to force out the object blocking the airway. If the student is unable to speak or cough, assume the airway is blocked and perform the Heimlich maneuver until the object is expelled. This maneuver can be conducted with the student in a standing, sitting, or supine position. To perform the Heimlich maneuver, place the unconscious student on his or her back (a conscious student can be sitting or standing with the rescuer positioned behind the student), supporting the head and neck, and look down into the mouth and airway for an object blocking the airway. Use only your fingers to remove any visible object. If no object is seen or removed, open the airway and attempt to breathe into the student. Then, make a fist with one hand positioned over the fist of the other hand and give 6 to 10 upward thrusts over the abdomen. This describes the Heimlich maneuver for an unconscious student lying on the floor. The procedure is different for a student conscious and sitting or standing. Continue the cycle of looking for the object blocking the airway, opening the airway, breathing into the student, and performing abdominal thrusts until the student revives or an EMS team arrives (American Heart Association, 1987).

Use in the Classroom

Difficulty breathing is the most frequent medical emergency for children (American Academy of Pediatrics, 1993; Buzz-Kelly & Gordin, 1993; Campbell & Thomas, 1991; CPR-ECC National Convention, 1992a; Harris, Baker, Smith, & Harris, 1984; Sommers, 1992; Soud, 1992). The need for resuscitation may result from injuries; suffocation caused by toys, foods, or plastic covers; smoke inhalation; sudden infant death syndrome; and infections, especially of the respiratory tract, among other conditions (Statistical Resources Branch, 1981). It is unfortunate that the majority of situations resulting in CPR for children are preventable; therefore, instructional settings and routines must be established to ensure environments that are safe (Standards for CPR and ECC, 1986) and foster independence.

Although any individual may need CPR, students with severe disabilities tend to have characteristics that increase the likelihood. Heart defects, seizure disorders, aspiration of fluids or objects, tracheostomies, or excess fluids in the mouth are examples of these characteristics. Feeding characteristics that may result in the need for an emergency response are immature chewing and swallowing and abnormalities of the structure and sensation of the mouth and throat. Children, when compared with older students, are at a higher risk for choking because their airways are smaller and their coughs are weaker (Harris, Baker, Smith, & Harris, 1984).

By starting CPR quickly after a student has stopped breathing or the airway has been blocked, cessation of the pulse, or cardiac arrest, can be prevented (Standards for CPR and ECC, 1986). CPR begun within 4 minutes (or less) after the pulse and breathing have stopped, can be lifesaving. When CPR is begun within 4 minutes, the chances of leaving the hospital alive are four times greater than for the student who does not receive CPR until after 4 minutes. After 4 minutes and without CPR, brain damage begins. After 10 minutes have passed without CPR, brain death is certain because of the lack of oxygen (American Heart Association, 1987).

All teachers and staff at Mark's school routinely update their CPR and first aid certification. Students who use wheelchairs *require a slightly more involved response from staff, should resuscitation be needed. Mark's principal made sure that the local hospital provided one-on-one training in a response protocol for a student in a wheelchair, particularly for resuscitation and CPR. Most first aid situations did not require a different response for students who were, or were not, using a wheelchair.*

Teachers and other professionals who interact continuously with students having disabilities should be routinely certified in CPR. If a person who is trained in CPR does injure the victim, the state's Good Samaritan laws usually protect that person. These laws prevent a victim (or the victim's family) from suing someone who attempted to perform lifesaving techniques (Batshaw & Perret, 1986). These laws do not cover persons who implement CPR without a current certification.

Where to Go for Further Information or Training

The American Heart Association, local hospitals, the Red Cross, school districts, and other local agencies routinely conduct CPR and management of airway obstruction classes. There are also a number of web sites that deal with the implementation of CPR (e.g., www.yahoo.com/health). Many of these sites, however, do not outline the specific procedures because of the need to have "hands on" training in order to be considered certified to implement the procedure.

First Aid

First aid refers to the administration of emergency assistance to persons who have been injured or are in some physical distress before the arrival of or transportation to a health care professional (Thomas, 1985). The "first aid" procedures administered in most schools are not lifesaving situations, yet unmanaged or improperly managed situations can become life-threatening with serious consequences.

Although a great deal of effort is expended to assure a safe school environment, accidents and injuries will occur. These typically minor events require first aid procedures that can be carried out in the school by the first person on the scene and that can be supported by the school nurse or qualified school staff. Because these events often occur when the teacher is the first available source of assistance, first aid training should be required of all school staff, taught by competent and certified health care professionals.

Also, it is often the teacher who first recognizes, interprets, and acts on a student's signs and cues that indicate a need for aid. Typically developing children often have conditions that require first aid, such as asthma, allergies, and reactions to medications. Students with special health care needs also present challenges to school staff, because their symptoms may be subtle and difficult to recognize. A student may experience symptoms, such as headache, nausea, or fever, but be unable to describe these symptoms to others. An aware teacher can recognize these signs in all of his or her students.

What Is Involved

Planning. Since situations requiring first aid generally arise unexpectedly, it is critical to have properly trained staff and emergency procedures in place. Careful planning for and anticipation of situations requiring first aid and identification of methods for prevention are essential. An emergency plan and procedures for school staff to follow should include not only the school setting and available resources in that setting, but also settings away from the school campus (e.g., traveling to and from school by bus, a field trip). Plans and procedures for a school should be consistent with the policies established by the school district and with state laws and regulations for school staff.

Procedures could include, for example, assignment of persons responsible for telephoning emergency assistance to transport the student to a source of emergency care when needed; for calling the student's parents; for accompanying the student to the emergency room, physician's office, or other location to receive emergency care; and for attending to the needs of the other students who witnessed the event requiring first aid.

School staff should have telephone numbers for contacting the student's parents during the school day, along with the names and telephone numbers of persons to contact when parents are not available. Additionally, the name and telephone number of the student's health professional should be easily available for school staff responsible for using this information. Telephone numbers for the school nurse, school administrator, ambulance, police department, fire department, paramedics, poison control center, and hospital emergency room should be posted at telephones in the school.

The amount of responsibility individual school staff members have in administering first aid varies in each school district. The number of health care professionals available in school districts also varies. In one school district, a school nurse may be assigned to an individual school and provide services to several hundred students in that school, while in another district, there may be only one nurse for the entire school district. In that instance, a school staff member who is properly trained in first aid or the school administrator may be the person who is contacted in emergency situations. A clearly outlined procedure of the steps to be followed in an emergency should be posted near all telephones.

Students who are at risk for health-related emergencies should be identified, with student and parental permission, and specific plans about what to do in the event of an emergency should be developed and in place (Schwab, 1991). At a minimum the emergency plan should include: the parents' names and telephone numbers, telephone numbers of alternate persons to contact in the event of parental absence or difficulty reaching the student's parents, and the names and telephone numbers of the student's physician or health care professionals (e.g., nurse practitioner, clinical nurse specialist, or physician assistant). In addition to specific information about the steps to be followed for a specific procedure, written parental permission and medical authorization to carry out the interventions at school must included. Information such as the student's allergies, status of immunizations, major medical problems, medications a student is receiving, and other pertinent information in the school records should be available to school staff responsible for using this information. An emergency care plan should also be a part of the student's Individualized Health Care Plan and the student's Individualized Education Plan (IEP). Porter, Haynie, Bierle, Caldwell, and Palfrey (1997) present a collection of very useful documents for use when developing and implementing a plan for the inclusion of children and youth requiring specialized health care procedures in an educational setting. Figure 7–2 represents a portion of these documents adapted for Liz.

An emergency identification bracelet or necklace should be worn or an emergency information card carried to identify any serious condition or allergies the student has. Such conditions may include diabetes, epilepsy, hemophilia, and potentially serious allergic reactions to medications or insect stings. Along with the condition or allergy, the student's name and blood type should be included. Use of personal emergency identification is especially important as students become older, more independent, and less supervised by persons aware of their potential need for immediate intervention.

Certain supplies are necessary when administering first aid and are usually available in the office of the school nurse. Disposable gloves should be used when staff may have contact with body secretions. These secretions may include urine, blood, mucus drainage, or saliva. The special health care needs of an individual student may dictate additional items that can be kept in a designated location for the student or with the student at all times. Supplies should be checked periodically and replaced as needed.

Although medications are frequently part of a first aid supply, it must be remembered that medication cannot be given without permission from the student's physician. Written parental and medical permission is required for school staff to administer medication. The exact procedure depends on the policies of the local school district and state laws and regulations. Exceptions to this are life-threatening emergencies in which EMT paramedics administer medications as recommended by a physician from the emergency room or hospital where a student is being transported. In this instance, administration of medications may take place on the school campus by staff from the emergency medical service.

Deciding if Emergency Attention Is Needed. School staff should not call paramedics for minor injuries such as minor cuts, bumps, or sprains. Guidelines on when to contact medical professionals may be in place for an individual student, but unexpected emergencies can occur and must be handled immediately. During an emergency situation, such as severe bleeding, shock, or sudden unconsciousness, the paramedics or an ambulance service should be called to take the

FIGURE 7–2
Sample Individualized Health Care Plan for Liz

In Emergency, Notify:
Name: Kathy Clark Phone: 235-5483 Relationship: aunt
Name: Mike Harmon Phone: 864-4954 Relationship: father

Jane Roaland
School Health Care Coordinator

1998-2000 School Year

Mike Sivoski
Education Coordinator

Individualized Health Care Plan

Student Information:

Name: Liz Harmon
Birthdate: 2-14-1986
Parent/Guardian: Mike and Beth Harmon
Address: 3316 SW 80 Street Terrace
Mother/Guardian: 295-2434 Home Phone; 271-1800 Work Phone
Father/Guardian: 295-2434 Home Phone; 864-4954 Work Phone
Primary Care Physician: N. Crouch Phone: 545-2726

Specialty Physicians/Health Care Workers:

Wagner, speech/language	Phone 235-8476
Hoag, wheelchair care	Phone 235-8555
Martinez, R.N., skin care	Phone 675-7983
Berle, M.D., internist	Phone 295-3434

student to a hospital. When contacting emergency room staff or paramedics for assistance in determining the seriousness of the student's condition, school staff should minimally provide the following information: (a) student's specific complaints or symptoms; (b) when symptoms began; (c) what makes the pain or condition better or worse; (d) what the student was doing when the injury or illness occurred; (e) what changes have occurred since the onset of the injury or illness; (f) what, if anything, the student has swallowed; (g) what medication the student has been taking. When a student is known to have a health problem that can potentially result in a life-threatening situation, inform the emergency room staff and paramedics as allowed by the student's parents. Permission forms previously signed by the student's

FIGURE 7–1
continued

Student-Specific Staff Training:

Subject	**Date**	**By**	**Attending**
Colostomy bag changing at school	8/25/97	Hospital staff	Fifth grade staff
		Burgess	Secretary
Seizure monitoring at school	8/25/97	Hospital staff	Fifth grade staff
		Nelson	Secretary

General Staff Training:

Subject	**Date**	**By**	**Attending**
CPR	8/28-29/97	Red Cross	All staff

Peer Awareness Training:

Subject	**Date**	**By**	**Attending**
Wheelchairs on the playground	9/25/97	Smith	Fifth grade 3rd hr playground
Nonsymbolic communication	11/6/97	Wagner	Turgeon's math class

Note: Adapted from Porter, S., Haynie, M., Bierle, T., Caldwell, T. H., & Palfrey, J. S. (1997). *Children and youth assisted by medical technology in educational settings: Guidelines for care.* Baltimore: Paul H. Brookes.

parents and filed in the student's school record allow this pertinent information to be shared.

First Aid in the Classroom

First aid procedures must be conducted with due regard for the danger of cross-infection. Simple rules of personal hygiene are sufficient to guard both the first aid provider and the student from additional contamination (ParasolEMT, 1998). Before providing the aid, wash hands with soap and water, or rinse with antiseptic. If possible, wear gloves, use a protective cloth over clothing, swab the area to be treated with approved antiseptic, and cover any adjacent areas likely to produce infection. During treatment avoid coughing, breathing, or speaking over the wound, avoid contact with body fluids, and use only clean bandages and dressings. After treatment wash your hands with soap and water.

Tissue Injuries

Insect bites or stings. Insect bites or stings can occur at almost any time. The reaction to the bite depends not only on the individual student but also the particular insect. Students may have a reaction of pain, redness, and swelling at the site of the sting. A life-threatening consequence of a sting may be a systemic reaction resulting in anaphylaxis (i.e., a condition that may be mild and include slight fever, redness of skin, and itching or may be severe and include difficulty breathing, violent coughing, cyanosis, fever, changes in pulse, seizures, and collapse). Awareness of the possibility of a severe reaction to a bite or sting allows school staff to help avoid insect bites or prepare to manage the reactions. An anaphylaxis kit containing epinephrine should be available for all students having severe reactions to foods or stinging insects.

Symptoms of a bee sting include evidence of the stinger, pain, swelling, and itching at the site. An allergic reaction also includes breathing difficulties, facial hives and swelling, rapid pulse, and collapse. Remove the stinger by scraping with fingernail or similar object, but *do not* squeeze. Use a cold compress to reduce swelling and pain.

Insects such as mosquitoes, flies, gnats, fleas, and hornets tend to bite exposed parts of the body, while body lice, scabies, and chiggers (mites) tend to establish themselves on areas of the body that are covered by clothing. These bites may manifest as single welts or rashes. Tick bites may be of particular danger because of the possibility of Lyme disease. For all bites, after immediate necessary first aid is applied, the school health care professional should be informed.

Human bites. Human bites may occur accidentally or intentionally. A student may bite himself or herself during chewing or it may be a behavioral problem. Teachers and staff may also be bitten as a result of interacting with a student. Infection can develop rapidly and be extensive because of the variety of organisms present in the mouth and in saliva. Both human and animal bites require careful cleaning with soap and water and irrigation, and they are left open to permit drainage. Keeping the wound open prevents the growth of certain harmful organisms (i.e., anaerobic organisms) that can survive in tissue and do not require oxygen to live.

Burns. Burns can occur as a result of scalds, electricity, or flames. Although this is unlikely in a school setting because of the efforts to make the school environment safe for children, minor or major burns can occur. Holding the burned area under cool water lessens the pain and cleanses the wound. Do not place ice on the burn; ice will further damage tissue. Sterile gauze bandages may be used to cover the burned areas if necessary. If sterile bandages are unavailable, clean cloth is used to cover the wound until the student is transported for medical attention.

Soft-tissue injuries. There are injuries, excluding bone fractures, that affect the joints and muscles of limbs. Sprains, strains and dislocations are considered soft-tissue injuries; some authorities also include bruising. The treatment of soft-tissue injuries is based on resting the injured part, applying ice packs to limit swelling and reduce pain, applying a firm compression bandage as support, and elevating the limb. The acronym for this treatment is RICE: rest, ice, compression, and elevation (ParasolEMT, 1998).

Abrasions. Abrasions or scrapes occur when there is loss of skin surface, resulting in pinhead-sized openings with fluid or blood oozing. The area should be held under cool running water and washed with soap or a mild nonirritating antiseptic solution. If dirt is in the area, it can be flushed out with normal saline solution (Foster, Hunsberger, & Anderson, 1989).

Laceration. A laceration refers to a wound that has a smooth or irregular tear of the skin and blood vessels. The area should be washed with soap and running water or a mild antiseptic. If suturing is required, it should occur within 6 hours of the injury to prevent scarring.

Puncture wound. A puncture wound refers to the penetration of the skin with a sharp object, such as a nail, pencil, or tooth, causing a small hole in the skin. There is usually little bleeding. The area should be washed with soap and running water or a mild antiseptic solution. A puncture wound should be monitored carefully for signs of infection, and a tetanus booster injection is recommended if the student has not received one within 5 years.

Bleeding injuries. For bleeding injuries that result from a burn, laceration, or puncture wound, many school districts recommend that school staff wear gloves when in contact with blood or body secretions that may contain blood. Concerns about transmission of HIV, HBV, and other organisms that may be present in the blood have resulted in changes in policies in school districts. Authorities have emphasized that any transmission of HIV and HBV most likely involves exposure of skin lesions or mucous membranes to blood and possibly to other body fluids of an infected person (Education and foster care, 1985).

Bone fracture. Signs that a bone fracture may have occurred include crookedness, shortening, or rotation of an extremity; pain or tenderness at the site of the fracture; or swelling and discoloration of the overlying skin because of bleeding around the fracture site. Keep the area immobilized until assistance arrives, and apply cool packs to the area because they may help reduce swelling (Chow, Durand, Feldman, & Mills, 1984). Students who are immobile and do not place weight on their bones are more inclined to experience a fracture when being lifted from a lying position to a sitting position. Since weight bearing contributes to bone density, the bones of such students are frail and tend to fracture more easily (Batshaw & Perret, 1986).

Where to Go for Help

The nearest poison control center is an excellent resource for the school nurse in determining what step should be taken to manage the ingestion of a substance. Emergency care resources in the community may include the local hospital and emergency room staff, health department, and trained EMT paramedics. In some communities, ambulance service, fire department, or police department staff may be properly trained to provide first aid in an emergency. Web sites are also available with general information regarding first aid training (*www.redcross.com*) or procedures (ParasolEMT, 1998).

Specialized Health Care Procedures

A number of special health care procedures, identified in this chapter as "specialized health care procedures," tend to be required frequently, particularly for students with severe or profound disabilities (Ault et al., 1989). These procedures are divided into two distinct groups, reflecting the actions required. The first group of common procedures are those that *require monitoring during the school day* (monitoring procedures). Teachers or designated staff members may be required to record occurrences of an event and monitor the student; no other intervention is required. These procedures can include seizure monitoring, medication administration, and nutrition monitoring and supplementation. The second group of common procedures *requires actual and routine implementation of a specific procedure* to maintain health or prevent the development of additional health-related problems (routine implementation procedures). These include teeth and gum care, skin care, and bowel care.

Monitoring Procedures

Seizure Monitoring

The purpose of seizure monitoring is to keep a record of atypical brain activity in order to provide feedback to the family and health care professionals regarding the effect of seizure treatment. Monitoring, using a form as shown in Figure 7–3, allows us to carefully observe and summarize information about a student's seizures. Systematic observations over time help us distinguish behaviors that are and are not related to the seizure and communicate these observations to the family and physician (Neville, 1997; Williams, et al., 1996). Careful observation of the child's seizure helps us physically protect the child during a seizure.

A seizure is sudden, abnormal bursts of electrical activity in the brain, resulting in a temporary change in behavior. This change in electrical activity may be limited to one area of the brain or may begin in one area and spread to other areas of the brain. If the electrical disturbance is limited to only part of the brain, then the result is a *partial seizure*. For example, the child may experience stiffening or jerking of one arm or leg. If the electrical disturbance affects the entire brain, the result is a *generalized seizure*, which includes grand mal or tonic-clonic seizures.

Epileptic seizures, including febrile seizures, occur in 3% to 5% of children; of the 125,000 new cases that develop each year, up to 50% occur in children and adolescents (Neville, 1997; Murray & Haynes,1996).

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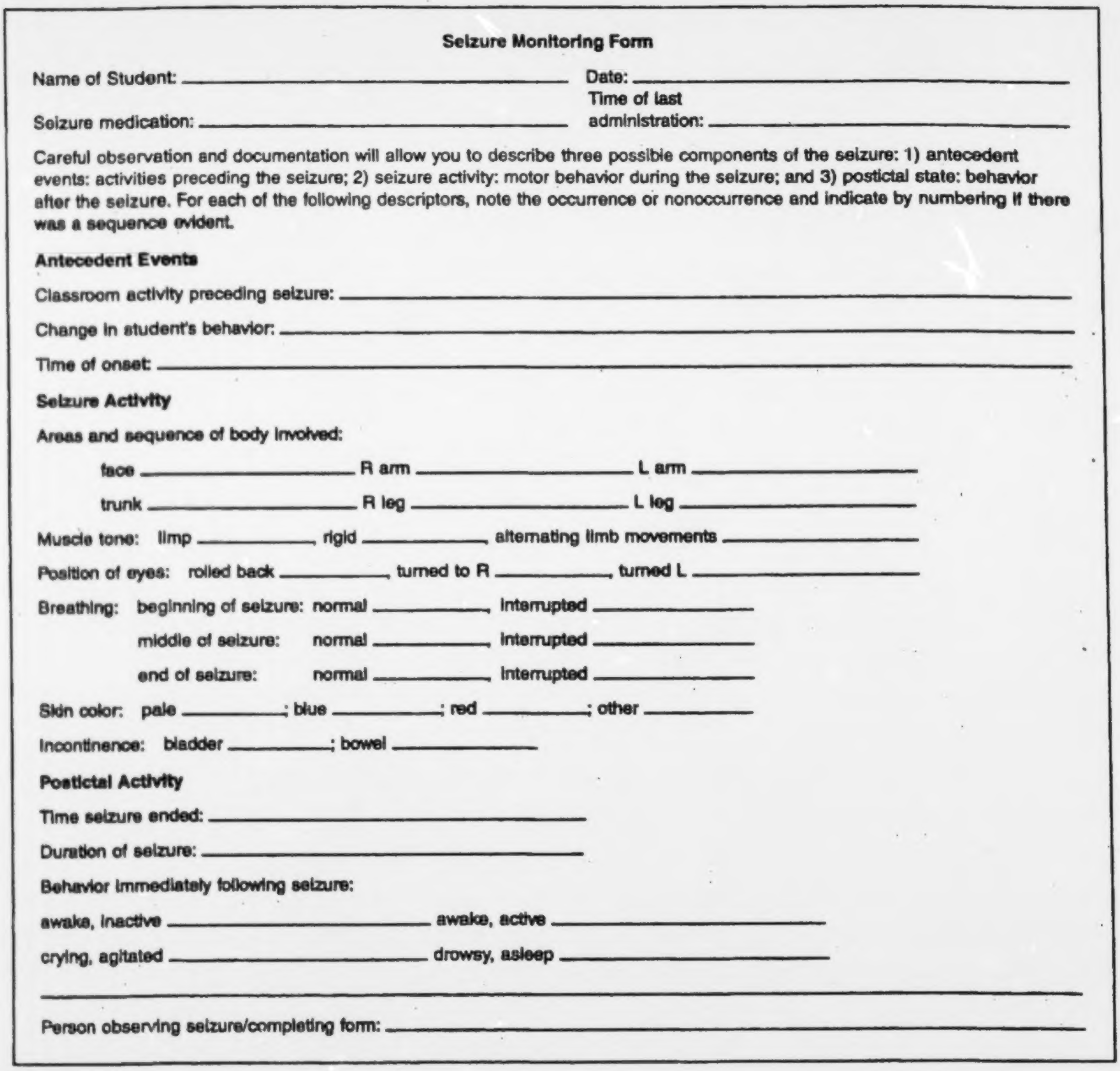
FIGURE 7–3
Sample Seizure Documentation Recording Form



Seizure Monitoring Form

Name of Student: ______________________ Date: ______________________

Seizure medication: ______________________ Time of last administration: ______________________

Careful observation and documentation will allow you to describe three possible components of the seizure: 1) antecedent events: activities preceding the seizure; 2) seizure activity: motor behavior during the seizure; and 3) postictal state: behavior after the seizure. For each of the following descriptors, note the occurrence or nonoccurrence and indicate by numbering if there was a sequence evident.

Antecedent Events

Classroom activity preceding seizure: ______________________

Change in student's behavior: ______________________

Time of onset: ______________________

Seizure Activity

Areas and sequence of body involved:

face __________ R arm __________ L arm __________

trunk __________ R leg __________ L leg __________

Muscle tone: limp __________, rigid __________, alternating limb movements __________

Position of eyes: rolled back __________, turned to R __________, turned L __________

Breathing: beginning of seizure: normal __________, interrupted __________

middle of seizure: normal __________, interrupted __________

end of seizure: normal __________, interrupted __________

Skin color: pale __________; blue __________; red __________; other __________

Incontinence: bladder __________; bowel __________

Postictal Activity

Time seizure ended: ______________________

Duration of seizure: ______________________

Behavior immediately following seizure:

awake, inactive __________ awake, active __________

crying, agitated __________ drowsy, asleep __________

Person observing seizure/completing form: ______________________

Studies have indicated that children with other health and developmental problems are less likely to "grow out of their seizures" and less likely to achieve optimal control with anticonvulsants (Kurtz, Tookey, & Ross, 1998; Neville, 1997). Thus, the monitoring of students' seizures has been identified as one of the major health-related procedures performed by the classroom teacher (Ault, et al., 1989.)

What to Do During a Seizure

1. Remain calm. Remember that no one can stop a seizure once it has started.
2. Stay with the student to monitor the student's activity during the seizure.
3. Mentally sequence the events that occurred before the seizure so you can record them later on an appropriate form (see Figure 7–3).
    a. Did the student recognize or signal the onset of the seizure?
    b. Did the student cry out or yell?
    c. What was the student's activity immediately before the seizure?
    d. Who noticed a change in the student's behavior?
4. Loosen tight clothing, especially around the neck.
5. Ease the student to the floor (to avoid a fall), if the student is standing or sitting when the seizure begins. This should be done even if the student is secured in adaptive equipment (i.e., wheelchair, standing frame, prone board).
6. Place a cushion or blanket under the student's head to prevent injury to the head.
7. If possible, position the student on his or her side so that the tongue does not block the airway and the student does not choke on secretions.
8. Place *nothing* (e.g., fingers, objects) in the student's mouth. This could injure the student or result in vomiting.
9. Do not give the student medications or anything to drink during the seizure.
10. Mentally sequence the student's activity during the seizure so that behaviors related to the seizure can be recorded later on an appropriate form (see Figure 7–3).
    a. What time did the seizure begin?
    b. Where on the body did the seizure begin and did it move to another body part?
    c. What were the movements of the head, face, eyes, arms, and legs?
    d. Was the student's body limp or rigid?
    e. Were the student's eyes rolled back, to the right, or to the left? Did they appear glassy?
    f. Did the student stop breathing?
    g. Did the student bite or chew the tongue?
    h. Was the student's skin pale, blue, or reddened?
    i. What time did the seizure end?

What to Do After a Seizure

1. Monitor the student's breathing. If breathing is absent, the emergency medical system must be notified immediately and resuscitation efforts begun.
2. Roll the student onto the left side and clear secretions from the mouth with a suction machine, bulb syringe, or hand wrapped in a handkerchief.
3. Talk or interact with the student to determine level of awareness (i.e., alert, drowsy, confused, unable to respond) and record this information.
4. Determine whether the student is able to move his or her arms and legs or if there is any change in the student's ability to move.
5. Check for loss of control of urine and stool (this can be embarrassing for the student), and determine if the student sustained any injuries (e.g., bleeding from the mouth).
6. Make the student comfortable and quiet, allowing an opportunity to sleep, if necessary (a student may sleep for several hours after a seizure).
7. Record the length of the seizure (in seconds or minutes) and what happened before and during the seizure as described above.

A series of consecutive seizures with no recovery of consciousness lasting longer than 10 to 15 minutes is called *status epilepticus*; this condition is life-threatening and requires immediate medical care (Low, 1982; Dreifuss, Gallagher, Leppik, & Rothner, 1983; Batshaw & Perret, 1986).

Classroom Application. Timely and comprehensive seizure monitoring requires a systematic approach to collecting behavioral data. Adequate preparation for meeting the needs of students with epilepsy requires that the family be consulted regarding the type of seizure as well as typical behaviors seen before, during, and after a seizure.

Communication among school, family, and health care providers will increase the usefulness of seizure monitoring; for example, school staff aware of medication changes can provide feedback to the family and physician on changes in the frequency and intensity of seizures. This information is critical, particularly if the physician is in the process of evaluating the student's prescription and dosage. An increase in the number of seizures per day or per week may indicate that the student is not receiving medication as prescribed, or that the student is in need of a change in medication as a result of a change in the student's metabolism or altered utilization of the medication (Low, 1982). Careful, accurate reporting of seizure activity to parents and health care providers should result in improved seizure management.

Understanding the behaviors that occur before, during, and after a seizure will help the staff prepare the school areas accordingly. For example, a student may become somewhat drowsy approximately 2 hours after administration of a seizure medication, which is generally around 9:30 A.M. In this instance, the teacher needs to plan for activities requiring less interaction and response from the student at this time of day. A student who produces large amounts of secretions during a seizure will need a suction machine or bulb syringe available in the classroom to remove secretions from the mouth.

The potential for injury to the student during a seizure is a concern for all school staff. Students whose seizures are not well controlled can experience a head injury as a result of a seizure-related fall. Often, these students wear a lightweight helmet to protect the head. The student must *never* be restrained during a seizure because of the possibility of physical harm (to the child or the school staff) while the student is held or restrained.

Additionally, the school environment must be as safe as possible for students with seizures. Objects (e.g., furniture, equipment or toys) that could cause an injury should be portable and easy to remove during a student's seizure. Pathways and instructional environments should be wide and free of unnecessary objects (i.e., unused wheelchairs, storage boxes) to minimize the chance of injury during a fall.

Additional Resources. The Epilepsy Foundation of America sponsors a wide variety of programs and activities for persons with epilepsy, as well as workshops and training for staff and educational materials developed for school personnel working with students with epilepsy. Local affiliates can be located in local telephone directories. Information from the national organization is available from:

Epilepsy Foundation of America
4351 Garden City Drive
Suite 406
Landover, Maryland 20785
(301)459-3700 or toll-free 1-800-332-1000
(310)577-0100 for publications
postmaster@efa.org
http://www.efa.org

Medication Administration and Monitoring

The general purpose of administration of medication is to relieve symptoms, to treat an existing disease, or to promote health and prevent disease. Since most medications require administration across the day, many students would be unable to attend school unless medication administration was provided.

Preparation for Administering Medication. Before administering any medication, the policies of the school district related to approval or consent for medication administration must be reviewed. These should include: parent request or authorization to give medication, physician's written approval or request for administration of medication (the prescription on the medication container may be an example), and secure storage for the medication (Gadow & Kane, 1983; Sheets & Blum, 1998). The requirement of a physician's written approval may also apply for over-the-counter (OTC) medications. Any administration of a medication should be recorded, using a log similar to that presented in Figure 7–4.

Administering Medications. The method of administration depends on the developmental age of the student and the student's ability to chew and swallow. For students whose level of physical development is that of an infant or for those who have difficulty retaining food or fluid in the mouth, the student is usually supported in a sitting position. The smaller student may be held; the larger student may remain in a wheelchair or chair (Whaley & Wong, 1987). When holding or supporting a student, maintain a relaxed position to decrease the chances of choking. This may be achieved by insuring the student's neck is flexed, the shoulders are rounded, and the student is in a slightly forward position.

The medication is carefully measured and placed in the student's mouth from a spoon, plastic dropper, or plastic syringe (of course, a syringe without a needle). The dropper or syringe is placed along the side of the student's tongue. The medication is given slowly to ease swallowing and avoid choking. For the student with tongue thrust, it may be necessary to rescue medications from the student's lips or chin

FIGURE 7–4
Medication Information Form

Medication Information Form

Name ______________________________ Age ______________________

Route ______________________

Administration Analysis:

Date	Medication	Dosage Indicated	Time Received	Full dosage Received at Time Prescribed	Initials
______	/______	______	______	Y N	______
______	/______	______	______	Y N	______
______	/______	______	______	Y N	______
______	/______	______	______	Y N	______
______	/______	______	______	Y N	______
______	/______	______	______	Y N	______
______	/______	______	______	Y N	______
______	/______	______	______	Y N	______
______	/______	______	______	Y N	______
______	/______	______	______	Y N	______
______	/______	______	______	Y N	______
______	/______	______	______	Y N	______

Maintenance/Episodic Meds and Side Effects

M/E 1. ______________________________
M/E 2. ______________________________
M/E 3. ______________________________
M/E 4. ______________________________
M/E 5. ______________________________
M/E 6. ______________________________

Possible Interactions of Medications

1. __________ & __________ = __________
2. __________ & __________ = __________
3. __________ & __________ = __________
4. __________ & __________ = __________
5. __________ & __________ = __________
6. __________ & __________ = __________

and readminister it. If the student uses a suck to take in liquid, the medication can also be slowly pushed into a nipple while the student is sucking (Whaley & Wong, 1987).

If the student is able to swallow a tablet, the medication may be placed on the middle of the tongue. The student can then swallow it with juice or water (Wagner, 1983). Because of the possibility of aspiration (pulling the tablet or secretions into the lungs), a whole tablet should not be given until the student is about 5 years old or demonstrates the necessary oral-motor control to safely swallow the tablet.

Use in the Classroom. Medication given during the school day must generally be made available at the school. The medication container must be labeled with the student's name, dosage, frequency of administration, and the prescribing physician's name. A system for recording and documenting when the medication was administered to a student must be established. Finally, the school district's policy should be reviewed to determine who can administer the medication in the school setting.

The "Five Rights" of Medication Administration. The person administering the medication makes certain that the *right dose* of the *right medication* is given to the *right patient* at the *right time* by the *right route* (Wagner, 1983). These guidelines are used every time a medication is given. A few minutes of double-checking a medication or writing down routine procedure can prevent a serious error that may result in unfortunate experiences for the school staff, the student, and the family.

Where To Go for Further Information or Training. School staff can find more information on administration of medication in the references listed at the end of this section (King, Wieck & Dyer, 1983; Scipien, Barnard, Chard, Howe & Phillips, 1986; Whaley & Wong, 1987; Wong, 1997). Nurses in the school, the physician's office, public health department, or local hospital can provide assistance on methods of administration, side effects and toxic effects of medications, and setting up a medication log for the student. The occupational and physical therapists can provide guidance on proper positioning for medication administration and suggestions on oral or motor problems hindering medication administration. A pharmacist and the student's physician can provide information about the student's medication (i.e., side effects, toxic effects, and interaction among medications).

Growth Monitoring, Nutrition Supplementation, and Feeding Management

Eating is one of the primary experiences in life. It is a universal event for children of all ages, from all cultures and from all socioeconomic classes. The well-nourished child grows at an expected rate, is resistant to illness, and has the energy to take advantage of social and educational opportunities. Adequate nutrition is critical to achieving potential for brain and physical development. An estimated 35% to 40% of children with a chronic disease or chronic disabling condition have a feeding disorder that results in inadequate nutrition and growth retardation. To initiate appropriate intervention, the school team must be aware of children at risk for nutrition problems and the simple screening methods used to identify these children.

Growth Monitoring Procedures. Growth is a sensitive measure of health, nutritional status, and development. We can monitor the nutritional status of a student by measuring his or her growth. Trends revealed through repeated height and weight measurements can be used to detect growth abnormalities, monitor nutritional status, or evaluate the effects of nutritional or medical interventions. (See Figure 7–5.)

Measuring Weight. Growth measurements must be made accurately and recorded correctly at least three times a year. In order to obtain an accurate weight, a beam scale with nondetachable weights is recommended. This type of scale is commonly found in physician's offices and in the school health office.

The student is weighed in light clothing with shoes removed, wearing as little clothing as possible with consideration given to privacy needs. If the child is unable to bear weight in standing, an adult may hold the student and obtain a combined weight. The adult then subtracts his weight obtained on the same scale at that time from the combined weight.

Measuring Height. A measure of weight does not provide maximum information without corresponding measures of height. Both are needed for an accurate analysis of growth.

In measuring height, a metallic tape or yardstick attached to a flat wall should be used. Any measuring rods attached to a platform or scale, or plastic or cloth tapes are considered inaccurate and should not be used. Ideally, the student must be able to cooperate and stand upright. If not, measures of length may be taken with the student lying down.

Measuring Length. If a student is less than 2 years of age, or is unable to stand unassisted and straight, then he or she may be measured lying down on a measuring board. One person (possibly a parent) holds the student's head so the eyes are looking vertically upward with the crown of the head firmly against the fixed headboard. The second person holds the student's feet with knees and hips extended, and toes pointed directly upward. A movable foot board is brought firmly against the student's heels. Indi-

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vidualized methods of assessing length are necessary when a student is unable to lie with shoulders, hips, and heels aligned. This type of measuring device may be available in the primary health care provider's clinic or in a public health clinic, or the school nurse should be able to locate a measuring board.

Measuring Weight-for-Height. In addition to weight and height measurements, weight-for-height data provide information about a student's growth. The weight for height measurement compares a student to others of his same size, not age. It is of particular importance in monitoring many students with profound disabilities, because these students frequently do not grow at the same rate as other individuals of the same age. A graph for weight-to-height measurement is found on growth charts (see Figure 7–6).

Monitoring Procedures During Eating. Many children with profound disabilities experience difficulty in eating. This may be the result of chronic health problems, early negative oral experience (e.g., tube feedings, intubation, suctioning), neurological problems, fatigue during meals, or a combination of these factors. The special education teacher, trained as an observer of behavior, can play an important role in monitoring the child's feeding abilities, eating behaviors, food intake, and preferences.

Monitoring Intake. Because the process of mealtime or eating extends well beyond the school day, it is critical that the school and family exchange information about changes in eating behavior or volumes of food consumed. Specific behaviors to monitor include: (a) whether a meal lasts less than 10 minutes or longer than 40 minutes; (b) student's behaviors, such as excessive whining, crying, or signs of discomfort, including frequent gagging, coughing or choking; and (c) whether the meal consistently contains items from only two of the four food groups or contains less than suggested amounts for height.

Recording the foods eaten at each meal and the child's responses to the various textures, tastes, and consistencies can provide the family and school with important information about preferences and differential oral-motor responses to the various foods. Some students with profound disabilities are tube-fed or receive a combination of tube and oral meals. For these youngsters monitor over time the amount and types of food ingested both orally and through the tube.

The effect of body position, particularly the head and trunk, on the student's ability to eat are additional observations. These monitoring functions can provide information important to the identification of simple positional interventions or lead to appropriate referrals.

Increasing Caloric Intake. It is a myth that failure to thrive is a necessary part of having a disability. The reason for a child's weight being in less than the 5th percentile for height is often because the child does not get enough calories. Simply increasing the amount of food to facilitate weight gain is often unsatisfactory because of impaired oral-motor function or effects of fatigue. Frequent illness or infection may decrease a child's appetite, as do certain medications.

There are several techniques to increase the number of calories a student consumes when not enough food is consumed to maintain an appropriate rate of growth. The addition of fats (a particularly concentrated source of calories), evaporated milk, wheat germ, or eggs in the preparation of foods increases the caloric and nutrient intake without requiring the students to eat more food. A regular meal pattern with two or three high-calorie snacks per day is also recommended to promote weight gain.

Increasing Fluid Intake. Adequate fluid intake is essential for maintaining health. Children with oral or motor problems often have difficulty with consuming sufficient liquids. This may be caused by an inability to communicate thirst, problems with hand-to-mouth coordination, or problems with sucking, swallowing, or heavy drooling. Many students with oral-motor difficulties are able to consume thickened liquids more successfully than thin liquids. Products commonly used to thicken thin liquids include pureed fruit, baby cereal, yogurt, dehydrated fruits and vegetables, mashed potato flakes, gelatin (added to warm liquids), or commercially available products designed specifically for thickening foods. Fruits and vegetables such as canned fruit, watermelon, cucumbers, and squash are also excellent sources of water.

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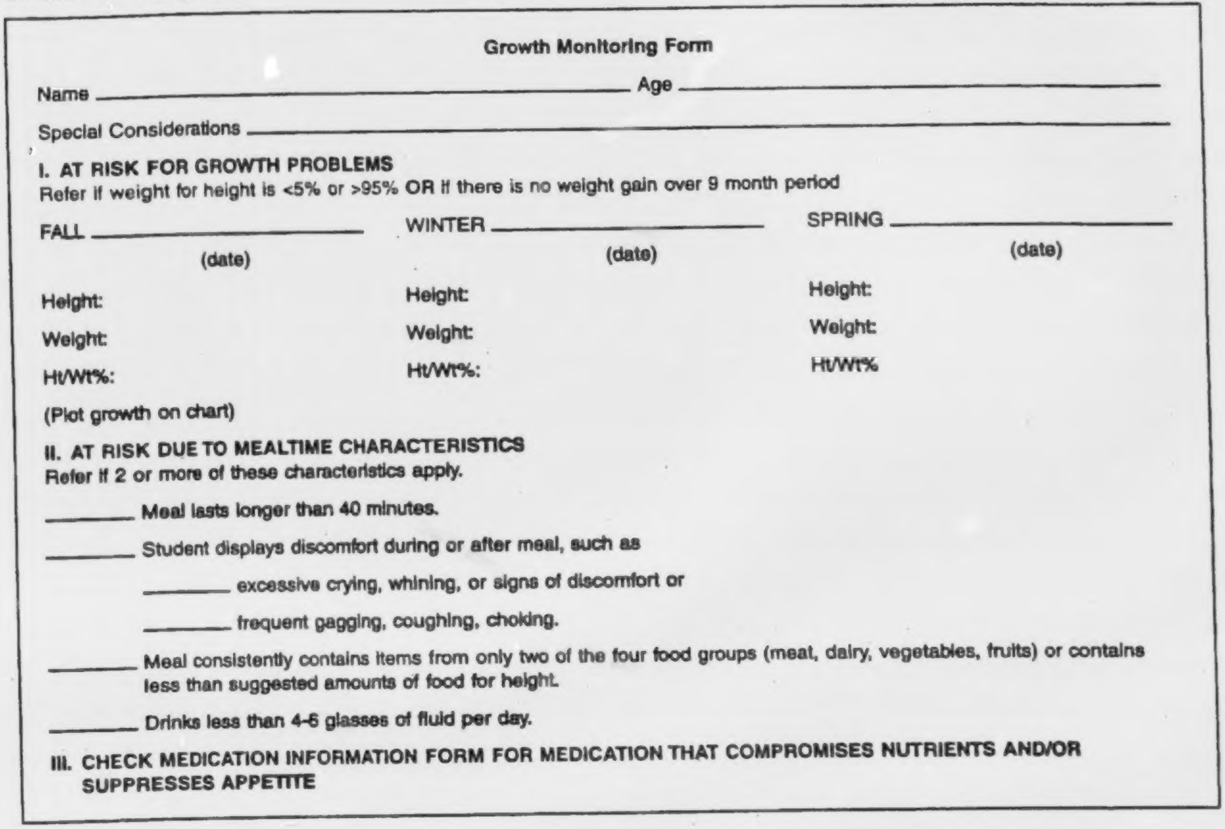
FIGURE 7–5
Growth Monitoring Form



Growth Monitoring Form

Name ______________________ Age ______________

Special Considerations ______________________

I. AT RISK FOR GROWTH PROBLEMS
Refer if weight for height is <5% or >95% OR if there is no weight gain over 9 month period

FALL ______________ (date)	WINTER ______________ (date)	SPRING ______________ (date)
Height:	Height:	Height:
Weight:	Weight:	Weight:
Ht/Wt%:	Ht/Wt%:	Ht/Wt%

(Plot growth on chart)

II. AT RISK DUE TO MEALTIME CHARACTERISTICS
Refer if 2 or more of these characteristics apply.

________ Meal lasts longer than 40 minutes.

________ Student displays discomfort during or after meal, such as

  ________ excessive crying, whining, or signs of discomfort or

  ________ frequent gagging, coughing, choking.

________ Meal consistently contains items from only two of the four food groups (meat, dairy, vegetables, fruits) or contains less than suggested amounts of food for height.

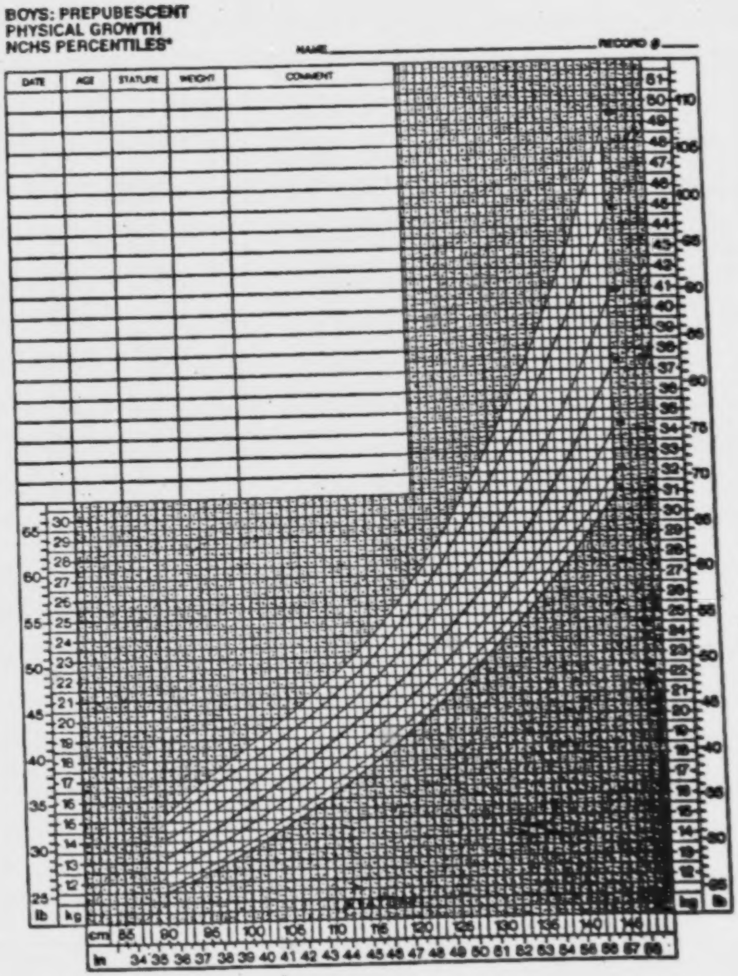
________ Drinks less than 4-6 glasses of fluid per day.

III. CHECK MEDICATION INFORMATION FORM FOR MEDICATION THAT COMPROMISES NUTRIENTS AND/OR SUPPRESSES APPETITE

Classroom Adaptations and Applications. Growth is a sensitive measure of health and development. Recording and plotting a child's height and weight, using forms such as those in Figures 7–5 and 7–6, at the beginning, middle, and end of the school year will help monitor the student's growth. Trends revealed through repeated height and weight measurements can be used to detect growth abnormalities, monitor nutritional status, or evaluate the effects of nutritional or medical interventions. A variety of growth charts are available for assessing the growth of children. The growth charts adapted from the National Center for Health Statistics (NCHS) (Hammill, et al., 1979) can be used to assess the growth of most children and should be a permanent part of a child's record. Recognizing that children with disabilities may have different growth expectations than children without disabilities has prompted the recent development of separate growth charts for children with Down syndrome, Prader-Willi syndrome, Turner's syndrome and achondroplasia (dwarfism). Generally these data are recorded and plotted by the school nurse or dietitian, but any member of the team can be trained to measure and record a child's growth.

To determine whether a child is underweight, overweight, or short in stature, the data gathered for a particular student is compared with standard data. Those youngsters who fall at either end of the continuum present a problem. Possible reasons for an underweight condition include improper nutrition resulting from poor caloric intake, chronic disease, dehydration, iron deficiency, infectious disease, or measurement error.

FIGURE 7–6
A Graph for Weight to Height Measurement



Possible reasons for an overweight condition include higher caloric intake than the child's energy expenditure (common in Prader-Willi syndrome and Down syndrome), edema, and measurement error.

A referral to a nutritionist should be made when:

1. Weight for age is at or below the 5th percentile or at or above the 95th percentile
2. Length for age is at or below the 5th percentile
3. Weight for length is at or below the 5th percentile or at or above the 95th percentile
4. No weight gain in 1 month (for infants from birth to 12 months of age)
5. No weight gain in 3 months (for children from 1 to 2 years of age).

Additional Resources. A registered dietitian can be contacted through a local medical center, hospital clinic, county or state extension service, or state or local chapter of the American Dietetic Association. The request should be for dietitians who work with children who have special health care needs or profound disabilities. In addition, the state's services for children with special health care needs and university-affiliated programs can offer consultation and technical assistance for the development of nutrition services in schools. These agencies may also provide an interdisciplinary feeding clinic or assist you in locating a clinic for evaluation and follow-up of children with complex, chronic feeding disorders.

An additional resource is the University of Iowa Virtual Children's Hospital at http://indy.radiology.uiowa.edu/VCH/>. Look further in the site to find Patient Information by Department: Pediatric Nutrition at http://indy.radiology.uiowa.edu/Patients/IHB/Peds/Diet/PedsDiet.html.

Routine Implementation Procedures

Teeth and Gum Care

The major components of teeth and gum care include oral hygiene, preventive dental care, and good nutrition and eating habits. Some of these components may be addressed instructionally during the school day, and some require cooperation between the school and home. The purpose of including teeth and gum care in the curriculum is to promote the overall health and well-being of the student.

Oral Hygiene and Preventive Dental Care. Regular visits to the dentist may begin as early as 12 months of age. Many factors, such as an improperly formed jaw or teeth, prolonged dependence on the bottle, lack of stimulation from chewing, inadequate cleaning of the teeth and gums, infrequent dental care, and the side effects of medications, can result in unhealthy and malformed teeth and gums. For the child with a disability, it is recommended that dental care begin early, during the first year of life, to establish a preventive program with the parents. Establishing a schedule of routine dental care provides parents with guidance on tooth brushing, dental development, fluoride, oral habits, proper diet, and other issues unique to the child. Routine oral hygiene should begin as early as possible. Starting at birth, clean the baby's gums with a clean damp cloth and progress to tooth brushing as teeth appear.

Infant Dental Care. The following procedure for oral hygiene has been recommended by the American Academy of Pediatric Dentistry (1997):

1. After a bottle, cleanse the baby's mouth with a soft toothbrush dipped in water. Use clean gauze dipped in water if the infant does not like a toothbrush.
2. Do not let the baby fall asleep with a bottle of formula or juice, rather give the baby a bottle of water at naptime.
3. Regular attention to oral hygiene at an early age will establish a routine associated with eating for the child; establish the feeling of having a clean mouth; and desensitize the oral-motor area for the child with increased sensitivity to touch in and around the mouth.

Toothbrushing. The American Academy of Pediatric Dentistry (1997) has suggested the following procedure for toothbrushing:

1. Place the head of a soft toothbrush beside the teeth, with the bristle tips at a 45° angle against the gumline.
2. Move the brush back and forth in short strokes (half a tooth wide) several times, using a gentle "scrubbing" motion.
3. Brush the outer surfaces of each tooth, upper and lower, keeping the bristles angled against the gumline.
4. Use the same method on the inside surfaces of all the teeth, still using short back-and-forth strokes.
5. Scrub the chewing surfaces of the teeth.
6. To clean the inside surfaces of the front teeth, tilt the brush vertically and make several gentle up-and-down strokes with the "toe" (the front part) of the brush.
7. Brushing the tongue will help freshen the breath and clean the mouth by removing bacteria.

Flossing. The American Academy of Pediatric Dentistry (1997) has recommended the following procedure for flossing the student's teeth:

1. Break off about 18 inches of floss, and wind most of it around one of your middle fingers.
2. Wind the remaining floss around the same finger of the opposite hand. This finger will "take up" the floss as it becomes soiled.
3. Hold the floss tightly between the thumbs and forefingers, with about an inch of floss between them. There should be no slack. Using a gentle sawing motion, guide the floss between the teeth. Never "snap" the floss into the gums.

4. When the floss reaches the gumline, curve it into a C-shape against one tooth. Gently slide it into the space between the gum and the tooth until resistance is felt.
5. Hold the floss tightly against the tooth. Gently scrape the side of the tooth, moving the floss away from the gum.
6. Repeat this method on the rest of the teeth. Do not forget the back of the last tooth.

Nutrition. In addition to careful brushing and flossing, a healthy, balanced diet is necessary for teeth to develop properly and for healthy gum tissue to form around the teeth. A healthy diet includes the following major food groups each day: fruit and vegetables, breads and cereals, milk and dairy products, meat, fish and eggs. A diet high in certain types of carbohydrates, such as sugar and starches, may place a child at risk for tooth decay.

"Baby bottle" tooth decay can occur when an infant or toddler is given a bottle filled with milk, formula, fruit juice, or sugared liquids at bedtime, naptime, or for long periods during the day. Excessive exposure to sugar in these liquids can cause teeth to discolor and decay. In a 1-year study of nontraumatic dental emergencies from a pediatric emergency department, 73% of visits were the result of dental caries and 18% resulted from baby bottle tooth decay (Wilson, Smith, Preisch, & Casamassimo, 1997). Children with oral motor problems are at increased risk for this problem because the bottle is often the primary source of nutrition long beyond 12 to 18 months of life. Rigorous attention to oral hygiene is required to maintain healthy teeth and gums.

Classroom Adaptations

Current data on child health suggest that few children receive early periodic screening, diagnosis, or preventive dental treatment. Anticipatory guidance provided through the school can facilitate an interchange on the provision of developmentally appropriate, preventive oral health information and care (Perlman, 1997). The development of a routine of oral hygiene, independent or assisted, that is ongoing and consistent between home and school will help (a) prevent peridontal (or gum) disease by maintaining healthy teeth and gums, (b) promote a healthy diet and good eating habits, and (c) promote correct speech habits and a positive body image (Mott, Fazekas, & James, 1985).

The time required to complete teeth and gum care must be included when planning for the student's individual program. Toothbrushing is performed after meals and snacks; flossing is performed at least once a day. The location (home or school) where flossing is conducted can be designated during the IEP process. Gloves should be used when completing any oral hygiene procedure. Initially the student with a disability may require complete assistance with toothbrushing and flossing. The goal of instruction is for the student to be able to brush his or her teeth independently or with minimal assistance from staff and meaningful participation in the process.

To promote adequate oral hygiene, the student must be positioned to facilitate tooth brushing and flossing. If unable to sit up, the student can be turned onto the side with the face along the edge of a pillow, and a towel and basin placed under the chin. If the student can sit, several positions are suggested. The student can sit on the floor while the adult sits behind him or her on a chair, with the student's head straddled by the adult's thighs. The adult can reach around with one hand supporting the student's chin and brush the teeth with the other hand. A second position may be with the student sitting in a wheelchair, the adult can stand or sit behind the student and reach around with one hand supporting the student's chin and opening the student's mouth. The teeth can then be brushed using the other hand.

Occasionally a child with a severe physical disability and poor oral motor skills has a bite reflex. This involuntary reflex or response often occurs when a spoon, toothbrush, or other object is placed in the child's mouth. If this is a problem when cleaning the teeth, a padded tongue blade or a new, clean rubber door stopper can be placed between the biting surfaces of the upper and lower jaw (Woelk, 1986). This will protect the child's teeth and the individual who is assisting the child with oral hygiene. Toothbrushing can then be carried out with this device holding the mouth slightly open. Brushing should be accomplished in the bathroom in front of a sink with both the student and teacher looking in the mirror.

Additional Resources

The American Dental Association provides information on care of teeth and gums. Information can be obtained from local dentists, the local health department, or:

American Academy of Pediatric Dentistry
211 East Chicago Avenue, Suite 700
Chicago, Illinois 60611-2616
http://aapd.org

Academy of Dentistry for Persons with Disabilities
211 East Chicago Avenue, Suite 700
Chicago, Illinois 60611-2616
(312) 440-2660

Skin Care

The most appropriate skin care treatment in the schools focuses on the prevention of skin breakdown and the development of pressure sores. Because many students spend the majority of their day in a wheelchair, braces, or splints and are dependent on others for position change, it is critical that skin care and skin monitoring be systematically addressed in the classroom.

Skin Monitoring

Maintaining healthy skin. Four objectives must be considered when promoting healthy skin: (a) keeping the skin clean and dry; (b) maintaining proper nutrition; (c) maintaining adequate activity; and (d) reducing periods of continuous pressure on parts of the body across the day.

Clean, dry skin is a necessary requirement for healthy skin. This is particularly important for skin that comes in contact with feces or urine. A primary skin care program should include efforts to reduce or eliminate incontinence; establish toilet training; establish catheterization; or establish frequent routines of checking and changing diapers and cleansing the skin to reduce prolonged exposure of the skin to feces or urine. Moisture, stool, and frequent and excessive washings cause a decrease in the skin's tolerance to friction, leaving it more vulnerable to chafing by diapers and clothing (Jeter & Lutz, 1996). This exposure can also result in the softening or maceration of the skin. Softened skin is at an increased risk for the development of sores. Moisture, from any source, accumulated in folds of the skin around the genitals, thighs, or any place where the skin can rub together will result in redness, irritation, and the eventual development of sores (Jeter & Lutz, 1996; Walker, 1971). Maceration of the skin by urine and feces adds the excoriating (skin cutting) effects of the decomposing substances in the urine and the infective organisms present in the feces to already damaged tissue, increasing the likelihood that sores will develop.

Sacco (1995) recommends the maintenance of adequate nutrition and hydration as an important strategy in the prevention of pressure sores. Adequate nutrition and hydration allows the body to develop healthy skin and more resistance to bacteria and to pressure sores. Proper nutrition is also critical to support healing when a sore has developed.

Optimal levels of activity also must be encouraged as part of a proactive skin care program. Inactivity can result in increased opportunities for the student to experience pressure on the skin surfaces. Pressure occurs when the skin and subcutaneous tissue is squeezed between an underlying bony prominence and a hard surface, such as a bed or a chair. Unrelieved pressure on the skin squeezes tiny blood vessels, which supply the skin with nutrients and oxygen. Sliding down in a chair or bed (friction or shear force) can stretch or bend blood vessels. When skin is starved of nutrients and oxygen for too long, the tissue dies and a pressure ulcer forms. Certain parts of the body sustain more weight when sitting and lying and are considered pressure-sensitive areas (e.g., the heels, bony prominences along the spinal column, the buttocks). A change in position should occur *about every 1 to 2 hours* for those students with severe physical disabilities to relieve continuous pressure as well as to increase blood circulation (Sacco, 1995).

The student, whether active or inactive, may also experience pressure from braces, shoes, or sitting in a wheelchair. The same concerns about pressure resulting from inactivity applies to pressure resulting from ill-fitting equipment. The skin underneath braces and splints, or wheelchair seats, should be checked daily to identify persistent red spots. If the spots do not fade within 20 minutes after the pressure is relieved, the health care worker should be notified of (a) ill-fitting equipment and (b) the potential for the development of a pressure sore.

A final aspect of prevention is the need to identify methods the student uses to communicate the presence of discomfort. Often uncomfortable pressure causes a student to move to relieve the discomfort. If the student cannot move to relieve the discomfort, school staff need to be sensitive to changes in mood or posturing as indicators of pain.

Because Liz has reduced sensation and spends the majority of her time sitting in a wheelchair, her skin care program includes diet and fluid monitoring as well as twice daily skin checks. These checks are implemented by the school health professional in the late morning and in the afternoon before she goes home. Liz's therapists have also worked to strengthen her elbow extensors so she can raise herself out of the chair to relieve pressure on her bony prominences (buttocks). Liz does this routinely between classes, providing a minimum of six hourly position changes across the day. Finally, Liz carries a water bottle with her so she has access to fluid whenever needed.

Treating unhealthy skin. When providing care to unhealthy skin, the focus is on treating the skin to promote a return to a healthy condition. The actual care of the unhealthy skin is prescribed by the student's physician or other health care provider or endorsed by the health care worker in the school.

Classroom Adaptation

The student's skin should be examined daily, emphasizing portions of the body susceptible to the development of pressure sores. A rating scale for determining the potential for pressure sore formation has been developed by Gosnell (1973), see Figure 7–7 for an adaptation of the scale. A low score indicates greater susceptibility to developing pressure sores and a high score indicates reduced risk. This scale should be completed annually as part of the overall assessment and program development process.

The school health care worker or the primary care physician should write a general health plan for the student at risk for skin problems. The plan should address the need for routine position changes, cleansing, maintenance of nutrition, and use of lotions or oils on the skin.

Additional Resources

Parents are a valuable resource for school staff when there is question about the condition of the student's skin. The student's physician or health care provider working with the physician can provide assistance and direction on prevention or treatment of skin problems.

The enterostomal therapist from a local hospital can provide assistance in care of the student's skin and the physical and occupational therapist in the school system can help identify positions that will be suitable for the student during certain activities, yet prevent prolonged pressure on a few skin areas.

Also see *http://www.healthfinder.org*, a general health information locator provided by the U.S. government.

Bowel Care

The purpose of attending to bowel care is to be aware of factors that may effect performance and to promote the overall health of a student. Constipation occurs in 5% to 10% of all children (Leung, Chang, & Cho, 1996) but is often more prevalent in children with differences in muscle tone (e.g., children with cerebral palsy and spina bifida). Increased or decreased muscle tone affects coordination of the anal muscles or muscles of the pelvic floor, making it more difficult for the student to have regular bowel movements. These muscle tone differences are compounded by insufficient fiber and water consumption and immobility and may be a side effect of certain medications. Symptoms of constipation can include unexplained fussiness, apparent abdominal pain, decreased appetite, and a swollen abdomen (Hirsch, 1997).

Factors that contribute to optimal bowel functioning include: a diet high in fiber, adequate fluid intake, a regular daily schedule for elimination, an established plan for toilet training (if applicable), an environment conducive to elimination, proper positioning for elimination, and daily physical activity or exercise (Hirsch, 1997; Leung, Chang, & Cho, 1996).

Fiber and Fluid Intake

Diet, particularly fluid and fiber content, is often the first line of intervention to manage the toileting process (Sullivan-Bolyani, Swanson, & Shurtleff, 1984). Fiber is found in raw fruits and vegetables, whole grain breads, and cereals. When the student has difficulty chewing and swallowing, an increase in fiber content may be difficult to achieve. Shaddix (1986) has recommended that the student progress from blended, pureed, or baby foods as rapidly as possible. Commercial baby foods contain very little fiber. To retain some of their fiber content, table foods can be placed in a baby food grinder or food processor to obtain the best texture for the student with

FIGURE 7–7
Screening Tool to Identify Students at Risk for Pressure Sores

Risk of Developing Pressure Sores
Screening Form

Awareness Levels Score	
4	Alert/active
3	Alert/inactive
2	Dazed/drowsy
1	Asleep

Continence Score	
4	Fully controlled
3	Usually controlled
2	Minimally controlled
1	Absence of control

Activity/Movement Score	
3	Moves self frequently in and out of positions
2	Adjusts self within position
1	Little to no independent movement

Communication Ability Score	
3	Symbolic
2	Gestures
1	Nonsymbolic

Mobility Score	
5	Fully ambulatory
4	Minimally ambulatory
3	Fully mobile with a device
2	Minimally mobile with a device
1	Immobile

Nutrition Score	
3	good
2	Fair
1	poor

Name of student ______________________ Completed by ______________________

	Date								
Score									
Awareness Level									
Communication Ability									
Continence									
Mobility									
Activity/Movement									
Nutrition									
Total									

Note: Adapted from Gosnell, D. [1972]. An assessment tool to identify pressure sores. *Nursing Research, 22,* 55–59.

oral-motor impairment. Shaddix (1986) also recommends serving bran cereal for breakfast or mixing unprocessed bran in food each day to supply additional fiber.

A dietitian is the best person to make changes in the fiber content of the student's diet. Studies have demonstrated that when families are instructed to increase fiber intake, on follow-up their children are consuming less than the recommended fiber intake (McClung & Boyne, 1995). Dietary management requires intensive and ongoing counseling to be effective. The student's physician or other health care professional may recommend a dietitian for this purpose. Most children need between 1 and 2 quarts of fluid a day. Shaddix (1986) recommends using unsweetened juice and water. Prune juice has a natural laxative effect and can be combined with another fruit juice to be more readily accepted by the student. Thickening liquids with items such as infant cereals, blended fruit, or unflavored gelatin may change the consistency of the fluid to be more easily accepted by the student with oral-motor problems. Frequent opportunities to drink small amounts of fluid are often scheduled throughout the day to better meet the fluid needs of the student with difficulty swallowing.

Use in the Classroom

Normal bowel functioning means that the student has a normal schedule of elimination. This developing or existing pattern may be incorporated into an ongoing, or new, toilet training program. Strategies for promoting a normal schedule of elimination include placing the student on the toilet for approximately 10 minutes after meals and snacks to take advantage of the gastrocolic reflex that usually occurs 15 to 30 minutes after meals.

A student's defecation can be facilitated by environmental considerations, positioning of the student, and an increase in the student's overall muscle tone. Stimuli or activities that aid in or detract from the process of defecation should be identified through discussion with the family and school personnel.

A squatting position best facilitates defecation. When a student cannot sit up alone or assume a position similar to squatting, adapted toilet chairs or special positioning may be of assistance. Physical activity and exercise are an active approach to the implementation of a bowel care program. Physical activity can help the fecal material move through the large intestine toward the rectum, facilitating normal bowel patterns. Exercise as a component of bowel care should be conducted daily, in a routine manner (see chapters 8 and 9).

Where to Go for Further Information or Training

Each individual has unique patterns of bowel functioning and the student with a disability brings additional complications to the issue of bowel control. These complications can include oral-motor impairment resulting in inadequate intake of fiber and fluids; medications that alter the consistency, color, and frequency of bowel movements; decreased levels of activity resulting in improper emptying of the intestines; inadequate innervation of the rectal sphincters; and inability to recognize the urge to defecate.

These problems, if not addressed, affect the student's participation in the curriculum. The physical therapist or occupational therapist can provide a plan for positioning the student during meals and elimination. The dietitian is an important source of information on incorporating fiber in the meals and should work with the occupational therapist on developing an eating plan that addresses both dietary needs and the oral-motor skills of the student.

The student's physician can be helpful in solving problems with diarrhea, constipation, and skin irritation. When diet and adequate fluids are not enough, the physician may recommend supplemental fiber, laxatives, medications, or occasional suppositories and enemas. The communication between school and home regarding the student's status with the bowel management program is critical for success. Atypical bowel elimination procedures (ileostomy and colostomy) are discussed later in this chapter.

Low-Incidence Health Care Procedures

Procedures occurring with low frequency, in less than 25% of students with disabilities, are identified in this chapter as "low-incidence health care procedures." These procedures may be characterized by additional equipment and specialized training and include various nonoral methods for providing nutrients, atypical methods of elimination of feces and urine, respiratory management procedures, and very specific procedures, such as glucose monitoring and shunt care.

Nonoral Feeding Procedures

Gastrostomy and *nasogastric tube feedings* are two methods of providing nourishment other than by mouth. Either of these may be necessary because students cannot eat enough food orally to get needed nutrients and fluid. A *gastrostomy tube* (G-*tube*) is a tube extending through the abdomen into the stomach. The purpose of this tube is to allow liquid nutrients to move into the stomach when a student is unable to take feedings by mouth or is unable to take adequate amounts of food by mouth. Gastrostomy tubes are used for long periods of time or even on a permanent basis. Some students may have a gastrostomy tube and not require feedings through the tube during school hours. Their tubes may be used to supplement oral intake or used when the student is ill or oral intake is not adequate. A *jejunostomy tube* (*J-tube*) extends through the abdomen into the jejunum, or the second part of the small intestine.

A *nasogastric tube* (NG-*tube*) extends through the nose, down the throat and esophagus or food pipe, and into the stomach. Some students have nasogastric tubes placed for each feeding, while others have tubes in for several weeks at a time. A *nasogastric tube* is typically a short-term solution to assist a student unable to meet his or her nutritional needs by mouth. Since this may be related to an illness or hospitalization, school staff are less likely to have contact with students having nasogastric tubes and therefore may avoid the issue of accidental placement of a nasogastric tube into the respiratory tract or lungs (Orr, 1997).

What Is Involved

Liquid nutrients can be given as formula or regular food carefully blended to be administered through the tube. Feedings are continuous (liquid nutrients slowly drip through the feeding tube over the entire day or night) or intermittent (larger amounts of liquid nutrients are given during five to eight feedings in a day). The amount of liquid nutrients given through the tube varies for each student and must be determined by the student's health care professional. In addition to formula or blended food, the student's health care professional will recommend a specific amount of water to be given each day.

Students may be fed by *gravity-drip*, *pump*, or *syringe*. A student fed by gravity-drip has a feeding bag hanging on a hanger (or pole) at a height ranging from 8 to 24 inches above the level of the stomach. A clamp is used to regulate the flow of the feeding. Students may receive feedings by gravity-drip continuously or intermittently. However, most students receive feedings by a pump that automatically regulates the flow of liquid nutrients into the gastrostomy tube. The pump may be electric or battery-operated. The student may receive feedings by syringe, a third method. A large syringe is attached to the end of the feeding tube, and liquid nutrients are poured into the syringe. When the remaining liquid nutrients have flowed into the bottom of the syringe tip, the appropriate amount of water is poured into the syringe and flows into the feeding tube. Liquid is never forced through the feeding tubing.

Instead of a gastrostomy tube that extends out of the student's stomach through the abdomen and is secured beneath the clothing, the student may have a *button gastrostomy*. This is a short tube that fits against the skin on the abdomen and has a small plug that can be removed for feeding. The button gastrostomy tube fits snugly against the student's skin and is not as noticeable to others or to the student. Tubing from the feeding bag can be placed into the button opening, allowing liquid nutrients to flow into the stomach or jejunum (i.e., the first 10 inches of small intestine). When the feeding is completed, the tubing is disconnected, and the opening is closed by the small plug attached to the gastrostomy tube.

Use in the Classroom

Tube feedings should occur during the mealtime or snack time of peers. Students should be fed in as typical a manner as possible to promote the development of mealtime skills. Students are generally in a sitting or upright position for feeding. If neither of these is possible, lying on the right side in an elevated position is acceptable for the feeding. Students should not be fed while lying flat and should remain in a sitting, upright, or elevated position for 1 hour after the feeding.

Students may be offered meals by mouth before, during, or after the tube feeding, depending on the plan established for each student. If oral meals are not allowed, oral stimulation activities should be carried out. These include, at a minimum, oral hygiene procedures described earlier in this chapter; mouth care is essential when a student receives only nonoral feedings. Some students may receive tube feedings as a temporary means of improving their nutritional status and promoting growth until they can receive food by mouth. Because this transition from tube to oral feedings may be challenging to some students, various strategies may be used to promote the transition (Bernbaum, Pereira, Watkins, & Peckham, 1983; Blackman & Nelson, 1985; Glass & Lucas, 1990; Luiselli, 1994; Satter, 1990; Schauster & Dwyer, 1996; Wolff & Lierman, 1994), such as introducing the oral portion of the meal before the tube feeding so that hunger works as a stimulus for eating and using preferred foods for the oral meal, since all necessary nutrients can be fed through the tube.

Feedings are given over the recommended period of time and usually followed by water to flush the tubing. Syringe feedings or intermittent feedings are given over a minimum of 20 minutes (Orr, 1997). Occasionally, medications are given through the tubing before, after, or at some point during the feeding. Make certain that the efficacy of the medication is not changed by the formula. Liquid medications are recommended whenever possible to avoid plugging the tube (Orr, 1997).

Equipment used during tube feedings should be washed thoroughly with warm, soapy water and rinsed well in a sink that is used for food preparation and cleanup. Equipment is allowed to air dry and then stored in a clean, covered container.

Problems that can occur with the feeding include blockage of the tube, the tube slipping out, skin problems, abdominal distention, diarrhea, and constipation. The flow of the liquid nutrients may stop during feeding because of a kink in tubing, viscosity of the liquid, plugging of the tube with medications, or movements of the student. Gentle flushing of the tubing with water can remove plugs and allow feedings to continue (Graff et al., 1990; Orr, 1997). The gastrostomy tube can be squeezed or rolled with the fingers moving slowly down toward the child's stomach (Cusson, 1994). If the tube comes out, a clean gauze pad (or clean cloth) should be placed over the opening. Parents and the school nurse may be trained to replace a gastrostomy tube, so a replacement may be kept at school. The tube must be replaced within 2 hours or before the next feeding (Cusson, 1994). The student's physician must carry out replacement of a J-tube immediately. The tube site is checked daily at school. Redness, swelling, pain or soreness, or drainage around the tube must be reported to the school nurse and parents.

Swelling or distention of the abdomen after feedings, resulting from excessive swallowing of air or gas build-up, may require venting of the tube. This venting may be done in a private area, because of the odor, away from other students (Haynie, Porter & Palfrey, 1989). Diarrhea can occur as a result of using unclean feeding equipment (i.e., equipment contaminated with bacteria), antibiotic therapy, or intolerance to formula. Constipation may occur from lack of fiber in the liquid nutrients being given to the student. Both of these issues should be discussed with the student's parents and health care professional (Orr, 1997).

If a change in skin color, difficulty with breathing, choking, vomiting, or aspiration of the liquid occurs, the feeding should be stopped immediately and the school nurse contacted. Some students may require suctioning by the nurse or a trained person to remove secretions from the mouth and throat. If suctioning is not successful and the student stops breathing, resuscitation must be initiated.

The student should be able to participate in school activities, including physical education, as determined by the physician on an individual basis.

Where to Go for Further Information or Training

Nurses in the local hospital, pediatrician's office, public health office, or home health agency can provide information on tube feeding. Dietitians in the local hospital or health department can provide information about many formulas used with tube feedings. Medical supply companies may provide information and training in use of the equipment (gastrostomy tube, feeding equipment, and feeding pump).

Summarized information titled "Tube Feeding at Home: Gastrostomy or Jejunostomy" can be accessed through *http://housecall.orbisnews.com*. "Gastrostomy Feedings" can be accessed through *http://wellness.ucdavis.edu*.

Videotapes include:

"Home Gastrostomy Care for Infants and Young Children"
Learner Managed Designs, Inc.
P.O. Box 747
Lawrence, Kansas 66044
Telephone (785) 842-9088
Fax (785) 842-6881

"Making That Important Decision: Parents Perspectives on a G-Tube"
"Life After Your Child's G-Tube Placement"
University of Nebraska Medical Center
Meyer Rehabilitation Institution
Media Resource Center
600 South 42nd Street
Omaha, Nebraska 68198-5450
Telephone (402) 559-7467
Fax (402) 559-5737

Atypical Elimination Procedures: Bowel or Intestinal Ostomy Care

Atypical elimination procedures address methods of eliminating feces and urine that require some type of assistive device or special procedure. While the goal is independent performance of these procedures, students with severe and multiple disabilities generally require assistance with appropriate partial participation goals.

What Is Involved

An *ostomy* is a surgically created opening in the body for the discharge of body wastes (Ostomy Association of Boston, 1995); there are two main types, a *colostomy* and *ileostomy*. When the opening is created from the bowel or intestine and leads to the abdominal surface, a student is able to eliminate feces from the bowel without using the rectum. *Colostomy* refers to an opening created when a portion of the colon or large intestine is removed and the remaining colon is brought to the surface of the abdomen. An *ileostomy* refers to an opening of some portion of the ileum (lower part of the small intestine) onto the abdomen. Feces are eliminated through this opening and collected in a small pouch or bag. The pouch is tightly adhered to the skin around this opening on the abdomen, called a stoma. Since there is no control over when feces move into the pouch, feces collect in the pouch during the school day. This is especially true when a student has an ileostomy. The fecal material passing through the stoma is liquid or a pasty consistency and contains digestive enzymes that can be irritating to the skin. Ostomy care involves procedures to collect feces in an odor-free manner and to keep the skin and stoma healthy and free of irritation.

Ostomy care should be conducted in an area that is private and allows a student to be in the best position for emptying or replacing the pouch. This may be a sitting or reclining position. Extra supplies for changing the pouch should remain at school at all times, along with an extra change of clothes (Haynie, Porter, & Palfrey, 1989). Supplies include a clean pouch, a skin sealant or skin preparation wipe, a skin barrier, a washcloth, and warm water. Skin sealants are used to protect the skin and are used under adhesive materials. Skin barriers are used to protect the skin from fecal material eliminated through the stoma (Hagelgans & Janusz, 1994). Pouches may or may not have adhesive that allows them to adhere to the skin barrier. Pouches can be drainable, with an opening that allows for frequent emptying, or they can have a closed end, to be discarded after one use (Broadwell, 1984).

When the pouch is removed, apply soapy water or solvent to the edge of stoma or opening. The skin is cleaned with warm water or mild soapy water and then thoroughly rinsed and dried. If a skin sealant is used, it is applied to the skin around the stoma and allowed to dry. The skin barrier is applied with the adhesive side toward the skin. The pouch is placed around the stoma and held in place for 1 minute or so (Adams & Selekof, 1986).

A drainable pouch should be emptied when it is one third full to prevent the weight of the feces from loosening it (Dudas, 1982). If possible, the student should be positioned over the toilet seat and the pouch opened and drained into the toilet. After the inside of the pouch is rinsed and dried, the pouch is closed and secured with an ostomy clamp or a rubber band.

Occasionally, a pouch will need to be emptied of accumulated gas. Excessive gas can be caused by certain foods or by swallowing air. A drainable pouch can be opened, and a closed-end pouch can be punctured with a pin, releasing the gas using compression. Tape is placed over the pinholes to avoid leakage (Adams & Selekof, 1986). Either method may result in odor that permeates the pouch and student's clothing. Most pouches contain odor barriers. Charcoal filters or pouch deodorizers may be available from ostomy suppliers to control odor (Bradley & Pupiales, 1997).

Contents of the old pouch are emptied into the toilet, and the old pouch is sealed in a plastic bag and disposed of in a container used for body fluid waste The stoma and skin around the stoma should be examined during each change of the bag for signs of irritation or redness. The skin should have its natura color, with no flaking or sweating. The stoma should appear pink and moist like the inside of the mouth Any discoloration should be reported to the schoo nurse. Since feces are a primary source of infection (see section on infection control), proper hand washing should be carried out after this procedure and at any time there is contact with feces. Gloves are worn during this procedure. Students may not need to wear gloves if they carry out ostomy care without assistance (Haynie, et al., 1989), although hand washing before and after is always required.

Use in the Classroom

A colostomy or ileostomy pouch is usually changed at home. A student, however, may require a change at school for a variety of reasons. A bag may become loose or leak as a result of activity or unintentional pulling on the pouch. A student may also develop diarrhea or excessive gas. Changing of the pouch is recommended between meals, not before meals, because the signs and smells of the ostomy may reduce the student's appetite (Ayello, 1997).

Ostomy care may be done by the student, school nurse, or other school staff person who is properly trained. Some students may require distraction during ostomy care to keep their hands from exploring the pouch and stoma. However, some students may participate in ostomy care by holding supplies and helping clean the stoma area, or they may carry out the procedures themselves (Wong, 1997).

School staff who have regular contact with the student should receive general education about the colostomy or ileostomy and potential problems. Understanding how to manage problems can allow students to continue classroom activities with little interruption. The goal is to promote as much independence and participation as possible.

Where to Go for Further Information or Training

Information and literature on colostomy or ileostomy care can be obtained from:

The United Ostomy Association
36 Executive Park, Suite 120
Irvine, California 92714
Toll-free 1-800-826-0826

The International Association for Enterostomal Therapy (IAET)
5000 Birch Street, Suite 400
Newport Beach, CA 92660

The American Cancer Society at http://www.cancer.org/

The United Ostomy Association Inc. at http://www.uoa.org

Atypical Elimination Procedures: Clean Intermittent Catheterization

Students having defects of the spinal cord, such as spina bifida or myelomeningocele, may also have neurologic impairment of the bladder (*neurogenic bladder*) resulting in little or no control over bladder emptying. Typically, the bladder stretches as it fills with urine until full, when nerve signals cause the bladder to contract and empty. Usually, a person can delay bladder emptying and control the occurrences of urination. A neurogenic bladder may overstretch or contract frequently or irregularly, resulting in constant dribbling or incomplete evacuation. *Clean intermittent catheterization* (CIC) is a procedure to empty the bladder and is most frequently used in students with neurogenic bladder (Vigneux & Hunsberger, 1994).

Clean intermittent catheterization involves the insertion of a catheter through the urethra (passageway between the bladder and the opening to the outside of the body) into the bladder. This usually is done every 2 to 4 hours during the day (McLone & Ito, 1998), taking into consideration other activities in the student's day, such as meals and snacks. The area chosen to carry out the procedure should provide privacy and have a sink to allow proper cleansing before and after the procedure.

During the catheterization, a student may sit on the toilet, stand, or lie down. The urine, if not emptied directly into the toilet, should be collected in a container. After thorough hand washing, the area around the opening to the urethra is cleansed with a towelette, or soap and water. Nonlatex gloves are worn, unless the student completes this procedure independently (Haynie, Porter, & Palfrey, 1989). The penis is cleansed using a circular motion, moving outward from the tip. A female student's labia are separated and cleansed, using one down motion. The motion is repeated two or three times, each with a clean towelette. If the student is prone to urinary infections, a wipe containing an antiseptic, such as betadine, may be used for cleansing (Clean intermittent catheterization, 1998).

First, the catheter is lubricated with a water-soluble gel. The catheter is inserted 2 to 3 inches into the urethra of the female student or until urine flows. For a male student, the catheter is inserted an additional 1 to 3 inches, so that it goes into the bladder. Once urine begins to flow, the catheter is held in place (Chapman, Hill, & Shurtleff, 1979). The catheter is never forced. If unusual resistance is felt, the student's parent must be notified (Haynie et al., 1989). The open end is held over a container or over the toilet to catch the urine. The catheter is gently removed after the urine flow has stopped. If urine begins to

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flow as the catheter is removed, removal is stopped until the urine flow ceases. Then removal of the catheter is continued. The skin is washed again to remove any urine and prevent odors. The catheter is washed with soapy water, rinsed, air dried, and returned to its carrying case. A self-contained intermittent catheter system allows the catheter to be inserted while remaining sterile. It includes a urine collection bag that eliminates the need for separate containers and extra supplies (The MMG/O'Neil closed intermittent catheterization system, 1998).

Use in the Classroom
A student with a neurogenic bladder has little or no control over the process of emptying the bladder and needs assistance in controlling the release of urine during the school day. The teacher involved in this process should encourage the student to participate in his or her own urinary catheterization as much as possible. To be independent in catheterization, the student should have adequate fine-motor control to manipulate the catheter and clothing, be motivated to learn catheterization, and have the support of the family. Students should be encouraged to participate as much as possible by washing their hands, holding equipment, or participating in whatever activities are appropriate (Taylor, 1990).

> *Liz actively participates in her clean intermittent catheterization. She sequences the activities, handing the equipment to the health care professional in order, and signals when done. Liz's assistant talks with her during the ongoing activity to increase her level of participation and understanding of the process.*

When students are unable to control the bladder, they may not achieve complete dryness, so protective clothing may be used. Students may also experience leakage when laughing, coughing, or sneezing. An extra set of clothing may be kept at school in case of an accident.

Where to Go for Further Information or Training
Nurse specialists in clinics, urological specialists, and hospitals serving children with myelmeningocele can provide information and assistance in this area. Videotapes on catheterizations, such as "Clean Intermittent Catheterization" can be useful in training others to perform this procedure (available from Learner Managed Designs, Inc., P.O. Box 747, Lawrence, Kansas 66044; telephone (785) 842-9088; fax (785) 842-6881). A handbook on intermittent catheterization from the Children's Health Care System in Seattle, Washington, is available at http://www.chmc.org/departmt/surgery/cic.htm.

Respiratory Management: Tracheostomy Care

Respiratory management involves procedures to maintain an adequate oxygen level in the bloodstream. It is the process of helping students maintain respiration or breathing. Typically, respiratory management procedures in school involve tracheostomy care, suctioning, oxygen supplementation, and assisted ventilation.

What Is Involved
A *tracheostomy* is a surgically created opening into the trachea. It is created when there is an obstruction in the respiratory tract to prevent movement of oxygen through the trachea, to allow for long-term assisted ventilation and to allow a way to remove aspirated oral secretions by suctioning (Hunsberger & Feenan, 1994). A hollow plastic or Silastic tube, called a *tracheostomy* tube, is placed in this opening and secured by cotton ties or other ties around the neck. The student can then breathe through the trachea rather than through the mouth or nose.

Care of the tracheostomy so that air can move freely includes removal of secretions from the student's trachea, cleaning the tracheostomy tube, care of the skin around the tube, changing the tracheostomy ties, and changing the tracheostomy tube. To remove secretions from the trachea, a suction catheter and tubing are attached to a suction machine. While wearing gloves, a trained individual removes secretions from the trachea. A suction catheter is inserted no more than 0.5 centimeter beyond the tip of the tube to avoid trauma and irritation to the trachea (Wong, 1997). If the student coughs secretions to the outer edge of the tracheostomy tube, the secretions may be removed with a bulb syringe or wiped away from the opening with a clean tissue. Care should be taken to assure that secretions do not come in contact with the skin of the caregiver or the student.

On rare occasions, a tracheostomy tube may come out and require replacement by a properly trained person. The staff person remains with the student and calls for assistance (Haynie, Porter, & Palfrey, 1989). An extra, sterile tracheostomy tube should always be kept in the classroom. If a new, sterile tube is not available, the old tube can be reinserted. Keeping the tracheostomy ties secure helps to ensure that the tube remains in place. Tracheostomy ties are usually changed at home, but if they become soiled, they require changing at school. If soiled ties remain on the student's skin, they can cause irritation.

Changing a tracheostomy tube and cleaning the old tube should be done at home. The skin around the tube is cleaned at least once daily and more often as needed. The student may wear a bib or dressing around the tube to collect secretions coming out of the tube. When the bib is soiled, it is changed during the school day. School staff members should carefully examine the skin around the tube for any signs of redness or irritation. Caregivers should wear gloves or wash their hands carefully before and after tracheostomy care at a sink that is not used for food preparation.

Use in the Classroom

Although the overall number of tracheostomies being performed for children is decreasing, the length of time tracheostomies remain in place is increasing (Carter & Benjamin, 1983; Line, Hawkins, Kahlstrom, MacLaughlin, & Ensley, 1986; Wetmore, Handler, & Potsic, 1982). Parents are routinely trained to care for a child with a tracheostomy at home. When school staff members know that a student will have a tracheostomy tube placed, one or more staff individuals should also be trained with the parents before the student's discharge from the hospital. Even though a teacher may not be designated as the person routinely responsible for changing the tube, all classroom personnel should be able to respond in the event of an emergency. This preparation can help alleviate concern on the part of parents and the school staff and minimize potentially negative responses from the student. Supplies should always be available at school. In addition to learning tracheostomy care, school staff members should be trained in cardiopulmonary resuscitation of a student with a tracheostomy.

Students may use a Passy-Muir speaking valve that allows the student to speak as a result of a positive-pressure closure valve that opens only when the student breathes in to allow air to enter the tracheostomy tube. After the student has breathed in, the positive closure mechanism shuts, forcing air out through the vocal cords, nose, and mouth, thus creating speech (Passy, 1986). The Passy-Muir speaking valve is being used with infants and children to promote speech and language development (Engleman & Turnage-Carrier, 1997).

Other students in the classroom may be curious about the tracheostomy. They should be informed about the purpose of the tracheostomy tube and its importance to the child. They may need reminders not to touch, pull on, or put objects into the tube. When the student is exposed to cold or windy weather, the tracheostomy tube should be covered. The student may wear light clothing to cover the tube or a small pouch known as an "artificial nose" over the opening of the tracheostomy tube. As the student breathes in and out through the "artificial nose," the air is warmed and humidified. This nose can prevent tracheal spasm caused by cold air or irritation of the trachea by dust particles (Hunsberger & Feenan, 1994). Although the student may play outdoors, play near water, such as a swimming pool or stream, is restricted to avoid accidentally getting water in the opening of the tracheostomy tube. Care should also be taken to avoid any talc product, such as baby powder, and fumes, such as paint, varnish, or hair spray (Wong, 1997).

Where to Go for Further Information or Training

Qualified persons, such as nurses and respiratory therapists who have taught the student's parents, can teach tracheostomy care. Cardiopulmonary resuscitation for a person with a tracheostomy requires specialized devices and training.

Resources include:

"Home Tracheostomy Care for Infants and Young Children"
Available from Learner Managed Designs, Inc.
P.O. Box 747
Lawrence, Kansas 66044
Telephone: (785) 842-9088; Fax: (785) 842-6881
Internet address: *http://www.lmdusa.com*

"Suctioning a Tracheostomy" from Children's Hospital Medical Center (Cincinnati), Patient Education Program.
Online address is at
http://www.chmcc.org/pep/pep2076.htm

"Suctioning" from Children's Health, University of California, Davis.
Online address is at *http://wellness.ucdavis.edu/child_health/...ds/pediatric_tracheostomy/suctioning.html*

Respiratory Management: Suctioning

Suctioning is the removal of secretions from the respiratory tract to allow for breathing. Suctioning may be done through the nose (nasopharyngeal), mouth (oropharyngeal), or trachea. Suctioning in the school setting is most likely to be done through the mouth. A suction catheter (attached to a suction machine by connecting tubing), a bulb syringe, or a DeLee suction catheter may be used to remove secretions from the mouth. These machines produce a suctioning sound when in operation. Because of the unusual characteristic of this sound, it is important to introduce both the machine and its operation to the student's peer group.

What Is Involved

Suctioning is carried out when a student is unable to remove secretions effectively and requires assistance in moving the secretions from a certain area of the body. Signs that a student may need suctioning include audible secretions, symptoms of obstruction, and signs of oxygen deficiency. Large amounts of secretion in the mouth may be visible or partially visible and can be removed by suctioning (Dickey, 1987). Positioning the student on one side allows secretions to move out of the mouth to be suctioned more easily.

Secretions removed with a bulb syringe should be expelled onto a disposal tissue before a second attempt is made to remove additional secretions. Care must be taken to avoid skin contact with the secretions removed from the student's mouth or nose. Thorough hand washing before and after suctioning is essential.

Where to Go for Further Information or Training

Home health nurses, nurses in local hospitals, and respiratory therapists can provide information about and assistance with suctioning. Also look for assistance in your area through the American Lung Association at http://www.lungusa.org.

Respiratory Management: Oxygen Supplementation

Oxygen supplementation is necessary if the current level of oxygen in the body is inadequate because of respiratory or cardiac conditions. Oxygen is given through a nasal catheter (a small catheter is placed into one nostril), nasal prongs (two small plastic prongs fit into the student's nostrils), a face mask (a plastic mask fits over the student's mouth and nose), or a trachea mask (a plastic mask fits loosely over the student's tracheostomy tube). Nasal prongs are the most frequently used method of administering oxygen to children in the home and the community. Because these prongs are sometimes irritating, adaptations may have to be made to the tubing. For example, the prongs may be cut off, leaving holes that can be positioned toward the nostrils so that oxygen can then enter the nostrils through these openings.

What Is Involved

Oxygen should not be given over a prolonged period of time without humidification, since it can dry up secretions and mucous membranes. The flow rate of oxygen is not changed unless ordered by the student's primary care provider. Occasionally, a student needs to have more oxygen during mealtime or certain activities. The student's primary care provider must prescribe this change in flow rate. Indications that the student has an inadequate supply of oxygen include difficult breathing, irritability, increase in respirations, fatigue, pale color, cyanosis (i.e., bluish lips and nail-beds), or increase in the heart rate.

Use in the Classroom

Most likely, a student will receive oxygen from a portable oxygen tank that is attached to a wheeled device or wheelchair and is carried by or with the student. Because oxygen is highly combustible, caution should be taken to avoid using highly flammable substances while oxygen is administered. Open flames from cigarettes or candles, Bunsen burners in chemistry class, electrical equipment that can produce sparks, and items that can produce static electricity must be avoided. Areas where oxygen is being used should be marked with large, easily read warning signs. Administration of oxygen may be a necessary part of a student's health care plan. Oxygen supplementation may be required at all times, or may be given at certain times, such as during meals, snacks, naps, or other activities.

Where to Go for Further Information or Training

Respiratory therapists and pediatric nurses in a local hospital and home health care staff members may provide information about administration of oxygen to children. Medical equipment supply companies can provide useful information about the oxygen tank, humidifier, and the tubing used to administer oxygen. The student's physician is a resource for school staff members when questions arise about the student's responses to oxygen supplementation.

Also look for information with the Children's Hospital Medical Center (Cincinnati) Patient Education Program: Education and Assistance for Parents and Patients. See particularly "Care of Your Child While Receiving Oxygen by Nasal Cannula" at http://www.chmcc.org/pep/pep2048.htm.

Respiratory Management: Mechanical Ventilation

Mechanical ventilation is required when the student is unable to breathe in or breathe out adequately; oxygen supplementation is accomplished using the student's current breathing pattern. Students may be dependent on a ventilator as a result of conditions such as neurological damage, muscle weakness, or severe pulmonary disease (Haynie, Porter, & Palfrey, 1989). Respiratory management in the schools involves monitoring the necessary equipment to allow breathing and to intervene in emergency situations.

What Is Involved

Although there are many different types of ventilators, the most common is a *positive pressure ventilator.* This ventilator breathes for the student by forcing air into the lungs, usually through a tracheostomy tube. A *negative pressure ventilator* creates a negative pressure that pulls the student's chest wall out and air moves into the lungs as a result of this negative pressure. An example of a negative pressure ventilator is the iron lung. These ventilators are used less often than the positive pressure ventilators and do not require a tracheostomy tube.

Use in the Classroom

Students require assisted ventilation for a variety of reasons: fatigue from the increased work of breathing; periods when breathing does not occur spontaneously; or when conditions restrict or prevent adequate ventilation. Students who require ventilatory assistance, as well as their parents, are often anxious when others become responsible for managing this aspect of their daily routine. Anxiety can increase the student's respirations and possibly lead to hyperventilation. Short training periods with the student in the classroom can allow school staff members to acquire understanding of the ventilator and allow the student and parents to begin feeling comfortable.

Carefully planned training sessions with the school staff members who will carry out procedures with the student are crucial. Staff members must feel confident and secure in the procedures they are using, have a clear understanding of all aspects of the procedures, and have plans to follow if problems arise. According to Haynie et al. (1989), a nurse or respiratory therapist who has received specialized training to manage mechanical ventilation should perform care. A trained caregiver should be available to the student in the classroom and in transit to and from school. In addition to knowing how to care for the student and ventilator, these trained persons must know how to provide CPR for the student with a tracheostomy. Back-up electrical power should be available for mechanical ventilator at all times. A resuscitation bag, spare tracheostomy tube, and suction supplies should always be with the student.

Where to Go for Further Information or Training

Respiratory therapists, home health care staff members, nursing specialists working with the student in the hospital setting, and the student's physician can provide information to develop and implement an overall plan for a student's respiratory management.

Also see *http://www.healthfinder.org*, a general health information locator provided by the U.S. government. Also available is "Allergies and Asthmatics Network" at http://www.aanma.org/, a nonprofit membership organization founded in 1985 to help families in their quest to overcome and maintain control of asthma, allergies, and related conditions. Several children's hospitals also provide web-based information: University of Minnesota Department of Pediatrics

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(*http://www.peds.umn.edu/*) and Gillette Children's Hospital (*http://www.gillettechildrens.org/newwelcomepage.html*).

Glucose Monitoring

Glucose monitoring is a procedure used to identify the amount of glucose (sugar) present in the blood. This is often carried out for students who have diabetes, a disorder in which carbohydrates are unable to be used because of inadequate production or use of insulin. Excessive amounts of glucose are then found in the student's blood and urine.

Type I diabetes or insulin-dependent diabetes, may occur at any age but is more common in youth. Type II, or non–insulin-dependent diabetes, is more common in adults but may occur at any age (American Diabetic Association, 1997a). The four aspects of therapy for type I diabetes are: (a) blood glucose monitoring, (b) insulin injections, (c) dietary modifications, and (d) exercise (Maffeo, 1997). Persons with type I diabetes usually require testing of blood glucose levels three to four times a day; this will likely affect the classroom routine. The optimal number of times a person with type II diabetes should test their blood glucose levels is not known, but it should be done often enough to assist reaching optimal glucose levels (American Diabetes Association, 1997c). Another test used to measure blood glucose levels is glycosylated hemoglobin. The result of this test reveals the overall glucose control over several months and can serve as a "report card" (Bayne, 1997) on dietary and insulin management.

What Is Involved

Glucose monitoring is taught to students and their parents as a method of achieving optimal control of glucose levels and can be carried out relatively easily during the school day. The student's fingertip is pricked with a lancet or spring-activated lancet. When a drop of blood forms, the blood is allowed to drop from the student's finger onto a special reagent strip. The strip is placed into a special meter. A reading of the student's glucose level appears on the meter's screen. If this device is not used, the color of the reagent strip can be compared with the color blocks on the reagent container; this method results in a probable range of glucose levels (Graff et al., 1990). It is important to follow the directions that come with the child's device.

Use in the Classroom

A team approach to therapy or management includes informing teachers, school staff, the peer group, bus drivers, and others who interact with the student about diabetes. The student may wear a Medic Alert bracelet or necklace to provide identification that could be lifesaving (Wong, 1997). The teacher and peer group can play a role in helping the student manage his or her disease by providing sugar-free treats or other appropriate foods during holiday and birthday celebrations. Careful monitoring provides accurate, current information on the student's glucose level and allows treatment of levels that are too high or too low. Foods can be given to provide extra glucose, foods can be limited, or insulin can be given. Glucose levels that are too high or too low can affect a student's ability to perform in the classroom. In a position statement on medical care for persons with diabetes, the American Diabetes Association (1997b) noted that it is desirable to test blood glucose levels at school before lunch and when signs or symptoms of abnormal levels are present.

When glucose levels are too high, insulin may need to be given (Graff et al., 1990). Since students with disabilities may not communicate symptoms of low or high glucose levels, parents can be extremely helpful in identifying behaviors that indicate glucose levels are not within the desired range.

Where to Go for Further Information or Training

Information about diabetes can be obtained through diabetes educators, nurse specialists working with children who have diabetes, and dietitians in local hospitals. The American Diabetes Association may have local affiliates that can be contacted for more information.

American Diabetes Association
1660 Duke Street
Alexandria, VA 22314
1-800-ADA-DISC
http://www.diabetes.org

Juvenile Diabetes Foundation
120 Wall Street
New York, NY 10005
1-800-JDF-CURE
http://www.jdfcure.com

Medic Alert
2323 Colorado Avenue
Turlock, CA 95382
(209) 668-3333

Internet resources linking to diabetes-related resources include:
http://castleweb.com/diabetes/d_07_000.htm and
http://casteweb.com/diabetes/index.html

Shunt Care

Hydrocephalus is a condition in which the accumulation of excess amounts of fluid in the cerebral ventricles result in enlargement of the ventricles. This enlargement may eventually result in enlargement of the head and subsequent brain damage. A student with hydrocephalus may have a shunt that drains excess fluid from the ventricles of the brain into another part of the body. This fluid is called cerebrospinal fluid and is formed primarily in the ventricles. Shunt care almost exclusively involves procedures to identify when the shunt has malfunctioned.

What Is Involved

Surgical placement of a shunt allows fluid to leave the cerebral ventricles and to move to one of several possible locations for elimination by the body: (a) the peritoneal cavity (ventriculoperitoneal, or V-P shunt); (b) the right upper chamber (atrium) of the heart (ventriculoatrial, or V-A shunt); or (c) the chest cavity (ventriculopleural, or V-P shunt). Valves in the shunt system assure that the fluid flows in one direction, from the brain to the other part of the body. If a shunt becomes obstructed or malfunctions, fluid begins to build up, creating increased pressure in the brain. Signs of shunt malfunction in students include headache, vomiting or change in appetite, lethargy or irritability, swelling along the shunt tract, seizures, deterioration in school performance, neck pain, or personality change (McLone & Ito, 1998). Double vision or blurred vision may also occur.

Use in the Classroom

To assure proper functioning of the shunt, there must be careful observations and reporting of complications to parents or the student's physician. School staff must be aware of the student's usual behavior, level of activities, and responses (Graff et al., 1990). This knowledge will help the school team note changes in level of activity, behavior, and response to and awareness of the environment which may indicate that the shunt is not working. Lethargy, nausea, and vomiting are common signs of shunt malfunction, but idiosyncratic behaviors are best identified through discussion with the student's parents. There are generally no restrictions on a student's activities, with the exception of exclusion from contact sports when there is a high risk of head injury (Jackson, 1980). Carpeted floors in the classroom can help protect a student who falls in school.

Where to Go for Further Information or Training

Health care professionals working with the student, such as the student's physician (pediatrician or family physician, neurologist, neurosurgeon) and a nurse specialist working with children who have neurologic disorders, can provide additional information. The student's parents can be exceptional resources by providing information about usual behaviors and about behaviors that can be expected when the shunt is not functioning properly.

The Hydrocephalus Association and the Spina Bifida Association of America (SBAA) provide families and professionals with resources on hydrocephalus and its management. The Hydrocephalus Association offers support, education, and advocacy to families and individuals (Tatter, Owen, & Kenyon, 1998).

The Hydrocephalus Association
870 Market Street, Suite 995
San Francisco, CA 94102
415/732-7040

The Spina Bifida Association of America publishes brochures, reports, newsletters, and videotape programs for families and professionals (Spina Bifida Association of America, 1998).

The Spina Bifida Association of America
4590 MacArthur Boulevard, NW, Suite 250,
Washington, DC 20007-4226
202/944-3285

Also see "Children with Spina Bifida: A Resource Page for Parents," produced by the Waisman Center, at http://www.waisman.wisc.edu/~rowley/sb-kids/.

Issues in Providing Special Health Care

Occurrence in Integrated Settings

In the past, the rationale for placement of students requiring complex special health care procedures in

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restricted settings was that these resources (personnel and equipment) were more efficiently, economically, and reliably provided if all students requiring special health care procedures at school were in close proximity. Separation from peers, however, is in opposition to current efforts toward local school placement, integrated settings, and community-based instruction (Meyer, Peck, & Brown, 1991). It is our position that if a person has been discharged to the home and nonnursing personnel can accomplish the necessary special health care procedures in the home, it is possible to provide these same procedures in the school setting (Porter, et al., 1997). There does not appear to be a medical reason for segregation.

When Liz was born and the degree of her disabilities became clearer, her parents were very much afraid that Liz would not have the same opportunities and experiences growing up that her sisters had. They liked their neighborhood, their school, and their community. They felt Liz should be a part of all of this, just as her sisters were. Since her birth, Liz had been receiving services through the school district, with home visits from infant and early childhood teachers. When Liz turned 6 she started in a segregated school, but soon the district moved her to an inclusive placement in Liz's neighborhood school. Though not an easy task, the process of including Liz with her peers was and is being accomplished. Her parents, again, were faced with the familiar fears and concerns when Liz had a colostomy. The school personnel, though initially hesitant, were willing to "give it a try." Liz's mom and dad worked closely with the district's health care coordinator to develop a plan for her health management at school. They additionally devised a strategy to both discuss how Liz's presence would affect school personnel and a training program so that everyone would be prepared. Aside from a few days missed because of colds and one case of diarrhea, Liz's attendance has been very good.

Children in Pain

Pain is a sensation in which an individual experiences discomfort, distress, or suffering resulting from irritation or stimulation of sensory nerves (Thomas, 1985). The interpretation of pain usually leads that individual to communicate, either verbally or nonverbally, the onset, intensity and occurrence of pain. Therefore, subjective information and an interpretation of another's communication (see chapter 11 for a discussion of nonsymbolic communication) is often the basis for treatment or management of pain.

Pain in children has been challenging to assess, particularly when children are preverbal or nonverbal (Foster et al., 1989). The presence of language and cognitive disabilities makes it difficult to rely on reports of pain, and teachers must be very aware of each student's strategy for communicating discomfort or pain. The student's behaviors, expressions, fears, and sources of comfort provide objective information about the student's experience of pain. The different ways a child or youth may express pain is very individual. If possible a student may gesture towards or favor specific areas of the body if the pain is localized. For example, if experiencing a fracture a student may guard an arm or try not to bear weight on a leg. The student may hold his head or stomach, a common response for all persons with stomachaches or headaches, or wince when swallowing or breathing. Often, however, the pain is not localized, or the child is not able to localize the pain or protect an area of the body. In these instances, the only indication that a person is in pain is that the individual is behaving differently than usual. Is the child, for example, more quiet, more irritable, or more lethargic than usual?

It may be the case that some students overreact to episodes of pain. Others, however, may not be aware of pain as an indicator that an injury has occurred. Students with spina bifida have decreased sensation in the lower extremities and may not feel pain, even with a severe injury, such as a burn or fracture (Holvoet & Helmstetter, 1989). Instruments have been developed to assess behavior changes associated with pain, but no useful instruments exist for assessing pain in students with disabilities, who often express themselves nonverbally (Foster et al., 1989). School staff members must rely on their own observations and knowledge about the student along with the information provided by the student's family to make an objective interpretation about a student's experiences with pain.

Children Who Are Dying

When a student's health begins to deteriorate because of an underlying condition or disease, plans for the student's educational program may need to be adjusted to the physical changes that are occurring. The course of the decline as communicated by the parents and physician may allow school staff members to adjust the school program. It is important to plan strategies to assist the student and his or her peers for the deterioration of the child's abilities; and to prepare the peers to handle their feelings before and after the child dies. If a progressive disorder is suspected but a diagnosis has not been made, close monitoring at school can provide information that can help the student's physician diagnose a condition (Holvoet & Helmstetter, 1989).

When a student's condition is expected to worsen or when death is expected within months or years, four options are available. These include (a) focusing on skill training that will maintain the present functioning level as long as possible; (b) teaching skills that are needed in order to compensate for lost ability; (c) aiding the student, family, school, and other students in dealing with increasing deterioration; and (d) lessening the likelihood of secondary complications, such as pain or additional impairment. These options are based on the assumptions that it is important for the student's life to be normal and that part of a child's normal life includes school (Holvoet & Helmstetter, 1989). Some or all of these options may be selected, depending on the student's condition.

School staff members can gain understanding of the degenerative disease and feel comfortable with the student by meeting with the parents and medical staff to learn about the student's condition and what the student can and cannot do and to clarify how to recognize and respond to emergencies (Holvoet & Helmstetter, 1989). When a student dies, school staff members are dealing not only with their own feelings but also with the feelings of other students, parents, and other staff members. It is important to discuss a student's death openly and allow others to express their feelings (Kleinberg, 1982).

Withholding Treatment

The following section discussing the special case of withholding CPR was written by a physician with a long history of educating health care providers in the process of ethical decision making, particularly at the end of life. These are issues that we are facing with increasing frequency; thoughtful discussion will assist us in understanding and evaluating the values involved, our respective roles and responsibilities, and the process through which decisions are made or changed. The intent of this section is not to tell you "what to think" but rather "how to think" about these difficult issues.

Withholding CPR

William G. Bartholome, M.D., M.T.S.

Withholding of a specific health care intervention—cardiopulmonary resuscitation, or CPR—is an example of the challenges facing teachers and schools when a student may have a life-limiting or even terminal illness. Another section of this chapter suggests that teachers and other appropriate school personnel must be trained to provide CPR. The underlying assumption is that any student who would suddenly stop breathing or whose heart would suddenly stop beating would be provided this emergency medical intervention in an effort to rescue them, to resuscitate them.

For some children, parents and health care providers may decide that CPR is either (a) "futile" in the sense that it is unlikely to be effective or (b) inappropriate given the nature of the child's medical condition and prospects for living (Landwirth, 1993). Studies of patient outcomes after CPR have demonstrated that it is often the case that CPR is a brutal and fruitless procedure (Blackhall, 1987). It is now known that, in certain populations of seriously ill children, CPR is so rarely successful in saving lives that decisions to withhold it are not only reasonable but ethically required in order to protect the child from the burdens of this highly invasive and often futile procedure (Nelson & Nelson, 1992). In most cases, the decision to withhold CPR will be made initially during the course of the child's hospitalization. Since cardiopulmonary resuscitation is a "routine" procedure in most hospital settings, the decision to withhold CPR is implemented through the mechanism of a "Do Not Resuscitate," or DNR, order. When a patient with a DNR order experiences a "respiratory or cardiac arrest" (the patient stops breathing or the patient's heart stops beating), attempts to restore breathing or heart function (CPR) are not undertaken and the patient is allowed to die.

While it is clearly the case that health care professionals and the facilities in which they work have become increasingly comfortable with decisions to limit certain kinds of life-sustaining treatments (Bartholome, 1991), this is often not the case when these same patients leave the hospital to go back out into the community or back to school. In the past few years, health care professionals, institutions, organizations, and families have worked diligently with emergency medical services (EMS) and agencies to develop methods of implementing the decision to limit treatment, especially decisions to withhold CPR from patients after discharge from hospital (Sachs, Miles & Levin, 1991). Some communities have developed computer registries of DNR patients; some use special out-of-hospital DNR forms, or even special DNR medical alert bracelets. While these procedures may well result in protecting people from inappropriate CPR in their homes, it is unclear how these developments would serve these same individuals outside of the home, in the school.

When children with DNR orders are discharged to home or to another facility, such as a long-term care facility, steps are taken to insure that the order is honored after the child has been discharged. The result is that teachers and school districts are now being asked to develop procedures for including children with DNR orders in the classroom. If teachers and school personnel are to be provided training that would allow them to provide CPR in a school setting, is it also the case that they should be provided training in how to respond to children with DNR orders? If school officials are willing to develop procedures to respond to the special needs of children who may experience a respiratory or cardiac arrest while at school, should they also be willing to develop policies and procedures for honoring DNR orders while these special students are at school? If hospitals and other health care facilities are willing to develop policies and procedures for protecting their patients from inappropriate resuscitative efforts, should not schools, which have adopted policies of always attempting CPR, be willing to do the same to protect students from inappropriate CPR?

Should Schools Honor DNR Orders? Some have argued that it is one thing for health care professionals or even family members to accept the responsibility of honoring DNR orders, but another to expect this kind of responsibility to be undertaken by teachers or school personnel. Younger argues that since school personnel ". . . have neither first-hand knowledge of the patient's clinical status nor the training necessary to make clinical judgments . . .", they should *not be expected to honor* DNR *orders* in the classroom (Younger, 1992). Younger also points out that school personnel, unlike families, have not been provided with training in dealing with and responding to a child who is experiencing a sudden cardiac or respiratory arrest. It may well be the case that a child from whom CPR is withheld may experience seizures or gasping respirations or another kind of "terminal crisis" before death. Is it reasonable to expect that a teacher in a classroom with other students would be capable of providing effective "comfort" to the dying student? Younger proposes that individual schools work out agreements with local emergency medical service agencies to both respond to the 911 call for help, but to provide only comfort to the child. This proposal implies that school districts would "honor DNR orders" by transferring this responsibility on a case-by-case basis to local EMS agencies. Although I feel that there is considerable merit in Younger's proposal, it may not be the case that such arrangements can be made in advance for all children.

Many children who are appropriate candidates for DNR orders have conditions for which a wide range of other life-sustaining treatments (e.g., antibiotics, treatment for status epilepticus) are appropriate and utilized. A DNR order is nothing more than a decision to withhold a specific, burdensome, and often unsuccessful intervention, namely CPR (Council on Ethical and Judicial Affairs, 1990). It has also been argued that a parent's request that a school district honor a student's DNR order might be a very reasonable request, but that it conflicts with the school's obligation to protect other students from the harm that might come from having to witness the child's death in the classroom. No one who has ever witnessed a full-blown CPR attempt, particularly a prolonged and unsuccessful one, would ever make this claim. It could clearly be argued that witnessing the brutality to the child involved in an attempt at CPR is likely to be much more difficult for the child's fellow students than witnessing the loving and caring response of school personnel to a classmate while she or he experiences something that the class had been previously told might happen and had been prepared to deal with if it did.

Summary

To establish quality health care in the educational setting, teachers must (a) incorporate special health care procedures into the educational day and (b) actively prevent the development of related health problems and conditions. This chapter offers guidelines for establishing programs responsive to all of the needs of students. These guidelines address assessing needs, scheduling, gathering student information, monitoring routine procedures, and including special health care procedures as part of the instructional day.

Procedures that should be a part of training for all classroom personnel include infection control, first aid, and CPR. Teachers also should have readily available information concerning the special health care needs of students. This information should minimally include (a) seizure information, with the type, frequency, and response; (b) medication information, with the type, purpose, schedule of administration (even at times other than school hours), and possible side effects or interactions; (c) emergency numbers for family members, the medical facility of choice, and the primary care provider; and (d) specific protocols, or descriptions, of the implementation of special health care procedures for individual students, the person primarily responsible for implementing the procedures, designated backups, and the dates of training of school staff members for the implementation of the procedures.

Teachers should consider the nutrition and hydration needs of their students. Weight-for-height measures, taken regularly over time, provide information on the overall growth and nutritional status of students. Following meals and snacks, some students may need teeth and gum care. Routine monitoring also may include the color of the skin under a brace or at the hips and tailbone. The risk status for pressure sores provides information for considering routine positioning, repositioning a minimum of every 20 minutes, and frequent rotations into the upright position. The frequency of bowel movements and the frequency and qualities of urination are other considerations.

Suggested Activities

1. Complete training for CPR with an emphasis on children and a basic Red Cross first aid course.
2. Monitor the weight for height of a student for whom you feel normal growth is at risk. Plot growth over several months and determine if the student's weight for height places the student below the 5th percentile. Determine whether growth is occurring at an acceptable rate. Discuss your findings with the school nurse or nutritionist.
3. Spend approximately 2 hours participating in a specialty medical clinic focusing on pediatrics, such as a cerebral palsy clinic, a feeding clinic, or a home health nurse clinic. Learn to implement a special health care procedure for a student with whom you are familiar. Develop at least two or three instructional skills that are appropriate for the student to practice during the implementation of the special health care procedure. If possible, implement a plan for the student to practice the skills during the procedure.
4. Find a web site that addresses issues of right to treatment and disability. Make sure the web site is produced either by a medical center, pediatric hospital, state or federal agency, or university.

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Quick-Guide Extra

Assisting Students Who Use Wheelchairs: Guidelines for School Personnel

Michael F. Giangreco, Irene McEwen,
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Quick-Guides to Inclusion 3:
Ideas for Educating Students with Disabilities

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Series Editor

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ASSISTING STUDENTS WHO USE WHEELCHAIRS

Some students who use wheelchairs are quite capable of getting around using their own power or a motorized chair. Even when students are adept at using their wheelchairs, they will occasionally find themselves in situations where they need assistance. Some students may need more help, such as with transferring in and out of their wheelchairs or moving from place to place.

If you see a student struggling to overcome a barrier, such as trying to open a heavy door to enter a room, don't automatically assume that he needs or wants your help. Your best bet is to do the same thing you would do if you saw any student you thought could use some help. First, ask the student if he wants your assistance. If the answer is "Yes," then you can ask, "What kind of help would you like?" Most students who need this kind of occasional assistance can effectively communicate the assistance they need and exactly what they would find helpful.

Students who have limited language skills, lack a formal language system, or rely primarily on nonsymbolic forms of communication (e.g., facial expressions, vocalizations, pointing) may have difficulty communicating, especially with people who don't know them well. In these cases, if you really want to help, then you have to be willing to look and listen. A student who has been in her wheelchair for too long without a break, for example, may make certain sounds or move in ways that suggest she is uncomfortable. You have to interpret those nonsymbolic communications as best you can. You might guess her message is, "I want to get out of this chair!" If the student sighs with relief when she gets out of her chair, then you can feel reasonably sure you interpreted her communication correctly. Over time and with information provided by people who know the student well, you can become increasingly skillful in interpreting a student's nonsymbolic communication. You can also create language boards or use computer programs to make it easier for a student to let you know her needs.

Transferring to and from a Wheelchair

The following sections offer suggestions for assisting students with transferring to and from a wheelchair and with wheelchair mobility.

Students who use wheelchairs rarely sit in them all day long. Students need to transfer to and from a toilet, the floor, other equipment, or furniture. These position changes are important to prevent fatigue, discomfort, skin breakdown, and muscle tightness, which can occur when students sit in one position for too long.

Changes in position are not always for physical or health reasons. Changing positions can also be important to allow students with disabilities to participate in classroom activities. If the class moves from an activity where everyone is seated at desks to one where they are on the floor, for example, then the student who uses a wheelchair should be supported to join his classmates on the floor. The student may need a little or a lot of support to be comfortable and stable while he is out of his wheelchair. Supports can be as sophisticated as a specialized floor-sitting device or as simple as a wall to lean against, a pillow, or a friend to sit next to. As a general rule of thumb, the supports provided should meet the student's need in a manner that allows him to participate in the activity and fit in with the group. In other words, use the most typical support that works before using something unnecessarily specialized.

A student's physical therapist or occupational therapist can recommend general guidelines for how often a student should change positions. Of course, therapists are not around all of the time, so it is most important to listen to the student and encourage him to communicate his needs to change positions.

To help a student move to and from her wheelchair, you must learn how to make those transfers safely and comfortably for the student and for yourself. Before attempting to transfer a student, be sure to learn how to help this particular student from someone who knows the student well. That person might be the student herself, her parent, a teacher, a physical therapist, or an occupational therapist.

Most students can assist with one or more steps involved in a wheelchair transfer. Always expect students to assist as much as possible with every step of a transfer. Be sure to give students enough time to do what they are capable of doing. Specific steps in the transfer will vary depending on where the student is transferring. An assisted transfer to the floor, for example, will be different than a transfer to a couch.

Young children, because of their size, tend to be easier to transfer. Because young children are easy to lift, the tendency is to do too much for the student. If young students are not allowed to learn and practice the skills they need to use in transferring, then as they grow older and heavier, the task of transferring becomes more difficult. Every opportunity to practice transferring is an important opportunity for learning. With each transfer, the student can be practicing communication, social, and movement skills involved in the transfer. Learning to transfer independently, or with as little assistance as possible, can allow students more independence in their daily lives and can open opportunities that may otherwise be limited.

Because of the inherent risks in transferring students to and from their wheelchairs, both to the student with a disability and the people providing assistance, it is always advisable to err on the side of caution. For example, trying to transfer a student by yourself, when a two-person transfer makes more sense, can result in either the student or you being injured. A physical therapist can show you how to maintain your body position to minimize your own risk of back injury.

Transferring from a Wheelchair

The following steps offer a general sequence for transferring from a wheelchair. The specific steps can vary greatly from student to student, and the order may vary slightly.

1. Let the student know that it is time to transfer.
2. Always minimize the distance between transfer points. If the student is able, ask him to move his wheelchair to the proper position for the transfer. If not, inform the student of your intention, and move the chair into position yourself.
3. Once in position, have the student lock the brakes on the wheelchair. If necessary, lock the brakes yourself.
4. Remove equipment and supports that may get in the way. For example,
   - Remove the lap tray and any switches or other devices.
   - Loosen the footstraps and move the footrests to the side.
   - Remove the block (e.g., abductor block) from between the knees.
   - Remove any chest, shoulder, or head straps.
   - Remove or adjust one side support (e.g., arm rest) in some cases.
5. Ask the student to lean forward.
6. Unfasten the seat belt.
7. While still leaning forward from the trunk and hips, ask the student to slide forward in the chair and put his feet on the floor.
8. Ask the student to stand up—this may require your assistance. Most students, regardless of the severity of the disability, can bear some weight, particularly if the student has been expected to bear weight since a young age. The ability to support at least partial weight during standing is extremely important, and students need to practice whenever they transfer. Except in emergencies (which are rare), never lift a

student who can support any of his own weight. For your own health and safety while assisting the student, be sure to maintain good body alignment (i.e., straight back, bending from the knees).

9. Assist the student to move to the other surface as you have been shown by a knowledgeable person (e.g., therapist, parent). Make sure the student is comfortably and safely positioned before moving away.
10. Release the brakes on the wheelchair, and move it to an appropriate location until it is needed again.

Transferring to a Wheelchair

The following steps offer a general sequence for transferring to a wheelchair. The specific steps can vary greatly from student to student, and the order may vary slightly.

1. Let the student know that it is time to transfer.
2. Always minimize the distance between transfer points.
3. Make sure the brakes of the wheelchair are locked.
4. Make sure the wheelchair is free of any supportive equipment that might get in the way of a successful transfer (e.g., footrests, blocks and straps, seat belt).
5. Assist the student in assuming a standing position next to the wheelchair, as you have been shown by a knowledgeable person (e.g., therapist, parent). Maintain a proper body position to minimize your own risk of back injury.
6. Assist the student to turn and sit on the edge of the seat.
7. Ask the student to lean forward, and, if necessary, assist the student to get situated as far back into the chair as possible.
8. While the student is still leaning forward, make sure the student is all the way back in the chair and is centered (i.e., not closer to one side of the chair than the other); this is extremely important. If the student is not centered and situated all the way back in the wheelchair, then the student's posture will be poor. This will lead to discomfort and fatigue.
9. While the student is still leaning forward, *fasten the seat belt*. Just like in a car or airplane, the belt should be secured snug and low across the lap to keep the student positioned properly. This is especially important for students who have difficulty repositioning themselves in their wheelchairs. Students who are able to reposition themselves will make their own adjustments to the seat belt's tension.

10. Attach or fasten equipment and adjust the student's positioning supports. For example,
    - Adjust the footrests and position the student's feet.
    - Place and secure any blocks or supports (e.g., abductor block).
    - Attach and secure any chest, shoulder, and head supports.
    - Attach the lap tray and any switches or other devices.
11. Ask the student to release the brakes, and you are ready to go.

Wheelchair Mobility

Many students can move their wheelchairs most of the time but may need help in some situations. Others need help most of the time, and some students need help all of the time. Regardless of how much help a student needs, always make sure students who are using their wheelchairs are wearing their seat belts and any other supports they might need to be comfortable and safe. Try to keep the following guidelines and ideas in mind.

Pushing a student's wheelchair without permission is like rudely shoving a student who can walk. Always ask permission to move students in their wheelchairs. If you see a student you think needs assistance, then you might ask, "Can I help you back up?" If a student can't move her own wheelchair, then let her know that you are going to move her—"It's time to go to lunch now, are you ready?" Pause to allow the student a moment to get ready to go. Then before moving her wheelchair, let her know your intentions by saying something such as, "Here we go!"

Turning off a student's power wheelchair to prevent the student from moving about is inappropriate. It is like tying a student who walks in a stationary chair. If the student is using his mobility in a way that is perceived as a problem, then address the behavior as you would a similar situation with a student who can walk. Consider the intention of the student's behavior. For example, is he trying to tell you he is bored, wants to escape the situation, or is more interested in something else he sees across the room? Once you have figured this out, do something constructive to address the identified issue.

Remember that a manual wheelchair is a mobility device—it is not an exercise device. If moving their wheelchairs is difficult for students, then they should not be expected to push themselves simply for exercise or so they won't get "lazy." Students who use wheelchairs should be able to get around as easily as their classmates who walk and run. A power wheelchair may be necessary. If a student with a manual wheelchair needs help to keep up with friends, then try to teach a responsible friend to help, rather than having an adult help all the time. Clear this approach with the student and family, and make sure the student-helper is oriented to safe and respectful ways to offer assistance to people who use wheelchairs.

Talk with students when you push their wheelchairs, just as you would if you were walking with a student who does not use a wheelchair. In some situations, where the space is wide, flat, and smooth enough (e.g., wide hallways), you can actually push a student's wheelchair while walking beside, rather than behind, her. This is not possible in all situations. It is most likely to be an option when the person providing assistance is quite a bit larger than the person in the wheelchair thus allowing the person to adequately control the wheelchair with one hand. Use your judgment and only walk beside while pushing the person's wheelchair in situations where it normally is courteous to walk side by side. This would not be a good idea when the halls are crowded between classes at a high school, for example, but would be if the student using a wheelchair and a peer are running an errand while the halls are empty.

Other Mobility Tips

1. Push students in wheelchairs forward up ramps. Go down steep or long ramps backward, particularly if the student is not able to lean back. Imagine what might happen if you lost your grip on a student's wheelchair and he headed down a long ramp, unable to stop himself—it's not a pleasant thought!
2. To help a student go *up a curb* (if no curb cut exists), first move the student in the wheelchair forward until the front (small) wheels are near the curb. Let the student know you plan to tip the chair back slightly to get up the curb. Then tip the wheelchair onto its back wheels by pushing down on the push handles while stepping down on one of the tip bars (near the ground, inside the wheels) with your foot. Push the chair forward and put the front wheels on the sidewalk (some students can push on the hand rims or power their chair to help). When the back wheels almost reach the curb, lift the chair by the push handles, and roll the back wheels up onto the sidewalk (some students also can help during this step).
3. To help a student go *down a curb* (if no curb cut exists), first move the student in the wheelchair backward until the back wheels (the large ones) are near the edge of the curb. Let the student know you plan to tip the chair back slightly to get down the curb. Then move the wheelchair back by holding onto the push handles and supporting the wheelchair while rolling the back wheels down the curb (some students can help by holding the hand rim to slow the descent). Roll the wheelchair back until the front wheels are near the edge of the curb. Still holding onto the push handles, slowly roll the front wheels down the curb. Turn around, and you are on your way.
4. When curbs, stairs, or other barriers exist, consider joining together with people who have disabilities to advocate for changes (e.g., curb cuts, ramps, elevators) that allow uni-

versal access. Although you may have been prompted to think about these barriers because of a student you know who uses a wheelchair, these types of changes can allow better or easier access for many other people (e.g., a parent with an infant in a stroller, a delivery person with a heavy load, a person who is temporarily on crutches, an elderly person who has difficulty with stairs).

5. Be aware that some students, particularly those with difficulty controlling their trunk and head, may need extra supports (e.g., head strap) when traveling in the school bus or being moved over uneven surfaces, such as when participating in field sports during recess or physical education class.
6. When assisting students in their wheelchairs on the playground or ball fields, it is often advisable to tip the wheelchair slightly onto the large rear wheels. As in all cases, always let the student know what you plan to do before doing it. When running the bases in a softball game or running on a field while playing ultimate frisbee, for example, the small wheels of a wheelchair often get caught in the ruts and uneven surfaces. This can cause the wheelchair to tip forward unexpectedly. This is a prime situation where having the seat belt fastened is critical—without it, the student can easily be thrown from the wheelchair. So let the student experience the faster than normal speed of running the bases and playing in the field by tipping the chair on its rear wheels and maintaining a safe speed.

Make sure every member of the school team, including the student and the student's parents, is aware of these general guidelines. More importantly, make sure those providing assistance understand the individual needs and preferences of the student. It is helpful to document a student's mobility needs and preferences in writing or with photos to orient school personnel, classmates, and friends in the safe and respectful ways to offer assistance.

Source: In Orelove, F. P., & Sobsey, D. (1996). Educating children with multiple disabilities: A transdisciplinary approach (3rd ed.) (pp.79-118). Baltimore: Paul H. Brookes Publishing. Reprinted with permission.

3

Handling and Positioning

Beverly Rainforth and Jennifer York-Barr

THROUGHOUT DAILY ACTIVITIES PEOPLE SKILLFULLY position and move their bodies to perform a variety of functions. Even the simple task of face washing, which most people can perform without being fully awake, requires a series of complex motor actions. By practicing this task thousands of times, however, people increase proficiency to the extent that they can execute the motor components of face washing on a subconscious level. Analysis of this task discloses several forms of positioning and movement activities that are essential to all types of independent functioning. These positioning and movement components include the following:

1. Selecting a position that matches the practical and movement demands of the task
2. Assuming and balancing the body in that position
3. Coordinating the movements required to engage in the task

Each component is discussed below.

Prior to performing any task, a person selects a position in which the task can be performed easily. For example, standing at a sink is ideal for face washing. When a person is standing, both hands are free to perform the task. One can also shift forward, backward, and sideways to look in the mirror, reach the washcloth or towel, adjust the faucets, confine drips to the sink basin, and so forth. In turn, one has constructed the environment so that the sink, towel bar, and mirror are easily accessible when standing. Other positions (e.g., sitting) usually are not chosen for face washing because they restrict reaching and body shifting, which interferes with the practical and movement demands of the activity. Once an efficient position is selected, balance and comfort must be achieved before the task can be performed. For face washing, people generally stand at the sink with their feet and legs separated and the muscles throughout their legs and back contracted slightly to maintain a stable, upright position. Some people also might lean their hips against the front of the sink or rest one hand on top of the sink to increase balance or support (stability). Throughout the activity, one makes minor postural adjustments in the ankles, knees, hips, and back to maintain balance.

Once balance and comfort are achieved, the arm movements required for the task of face washing can begin. One must coordinate the muscles around the various joints to provide adequate support and to execute efficient movements. For example, simply bringing a washcloth to the face requires complex coordination between joint stability and mobility. First the shoulder blade is stabilized on the back to provide a base of support for moving the arm. Then, simultaneously, one rotates the forearm so the palm of the hand faces upward, straightens the wrist and fingers, bends the elbow, and brings the elbow slightly forward and out to the side (see Figure 3.1). For this movement to be coordinated, however, there also must be some motion at the shoulder blade and shoulder joint (mobilization) and some stabilization at the other joints. Each step of the face-washing task requires one to combine joint stability and mobility in a similar manner to produce efficient patterns of arm movement.

In summary, in order to accomplish even the simplest daily activity, a sophisticated combination of positioning and movement skills is required. It is important for educational team members, including family members, to recognize the complex motor demands of such simple tasks. These positioning and movement activities often present challenges for children with physical disabilities such as cerebral palsy. For example, a child who is unable to stand at a sink may sit in a wheelchair, but this position restricts access to the sink and face-washing materials. Another child might be capable of standing at the sink, but only when using both hands for support. Efforts to use either hand for face washing reduce the child's balance, and in turn, eliminate the stable foundation needed to use the hands. Another child may have adequate balance but still may be unable to coordinate arm movement sufficiently to perform the task. Efforts to flex (bend) the elbow may elicit uncontrolled muscle contractions (spasticity) through the arm causing 1) the child's arm to pull close to the body; 2) the elbow, wrist, and fingers to bend excessively; and 3) the palm of the hand to turn downward (see Figure 3.2). The arm position prevents the child from completing the task.

Because children with neuromotor disabilities often encounter the types of problems described previously, they may find it difficult or impossible to participate in tasks such as face washing. When they do perform such tasks, these children often develop postures and movement patterns that appear abnormal and limit skill development. Continued practice of such abnormal patterns can

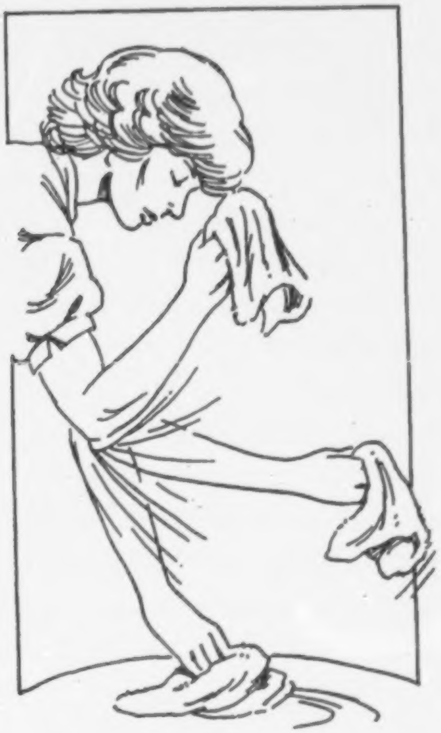

Figure 3.1. Arm position when bringing a washcloth to the face.

decrease rather than increase proficiency in task performance (Bobath, 1980). To minimize the influence of these abnormal postures and movement patterns, educational team members can apply a variety of handling and positioning techniques (Bergen, Presperin, & Tallman, 1990; Bobath & Bobath, 1972; Connor, Williamson, & Siepp, 1978; Finnie, 1975; Fraser, Hensinger, & Phelps, 1990; Jaeger, 1987; Levitt, 1982; Morris & Klein, 1987). Because occupational therapists and physical therapists have developed and used them extensively, handling and positioning techniques are sometimes considered specialized treatment provided by therapists. Episodic intervention is inadequate, however, because 1) children need extensive practice to learn new movement patterns (Kottke, Halpern, Easton, Ozel, & Burrill, 1978); and 2) poor positioning generally has a deleterious effect on performance, even among children who do not have motor impairments (Sents & Marks, 1989). Furthermore, most children with disabilities are handled, moved, and positioned each day by numerous people, including parents, teachers, and assistants, regardless of whether these people know appro-

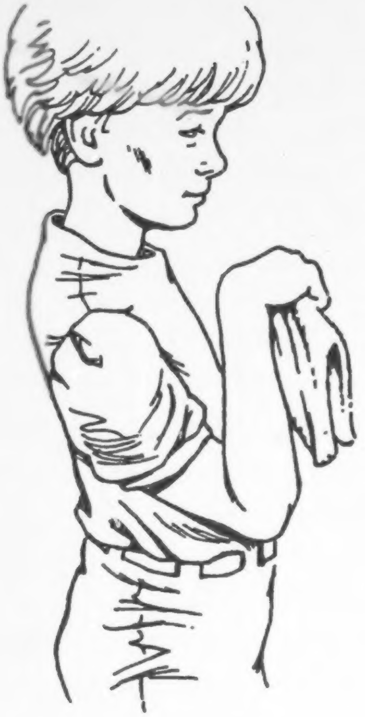

Figure 3.2. A child with cerebral palsy attempting to bring a washcloth to his face.

priate methods. When therapists delineate methods and provide systematic instruction, other team members can learn to use handling and positioning methods effectively (see, e.g., Inge & Snell, 1985).

It is essential that all team members provide consistent handling for children with neuromotor disorders. Successful implementation of a transdisciplinary approach to service provision (see Chapter 1; Rainforth, York, & Macdonald, 1992) promotes this consistency. Within the transdisciplinary model, therapists teach the principles of handling and positioning to other team members. Parents, teachers, and therapists also share information about the methods each has found effective with individual children. Finally, the entire team works together to establish a complete set of handling and positioning procedures for each student. Within this model, handling and positioning become integral components of the daily routine for children with multiple disabilities. To enhance a transdisciplinary approach, this chapter discusses theory, research, and practices relevant to handling and positioning children with cerebral palsy and similar neuromotor impairments.

HANDLING CHILDREN WITH CEREBRAL PALSY

Children with cerebral palsy display a variety of posture and movement problems, which are discussed thoroughly in Chapter 2. It may be recalled that these children typically have too much or too little tension (tone) in their muscles, resulting in problems with positioning and movement. The term *handling*, as used in this chapter, applies to techniques intended to improve these impairments. The following are the goals of handling:

1. To elicit more normal muscle tone
2. To facilitate upright positions with normal posture
3. To facilitate normal movement patterns, including
    a. Automatic movements that maintain balance
    b. Locomotion for independent mobility
    c. Arm and hand movements for task performance
    d. Oral movements for eating and speech

Methods to achieve each goal are discussed below. Teachers are encouraged to confer with an occupational therapist or physical therapist regarding which methods are appropriate for individual children.

Normalizing Tone

The presence of too much, too little, or fluctuating muscle tone is symptomatic of damage to the child's brain. Although the damage itself cannot be repaired, there are a variety of ways to influence muscle tone. One way to normalize muscle tone is through the postural and movement strategies that compose handling. For handling techniques to be effective, however, certain health, emotional, and environmental factors may require attention.

Health, Emotional, and Environmental Factors When children become excited or irritated, their muscle tone tends to increase. These responses may result from 1) physical conditions such as pain, 2) personal interactions producing overenthusiasm or apprehension, or 3) stimulating environments with high levels of noise and activity. In contrast, children who are subdued tend to have lower muscle tone. This situation may result from 1) conditions such as fatigue or illness, 2) personal interactions producing complacency or depression, or 3) environments that are quiet or languid. Medications often have side effects of irritability or lethargy, with a corresponding influence on muscle tone (Gadow, 1986). Theoretically then, children with excessive tone (spasticity or hypertonia) would benefit from being somewhat subdued, whereas children with very low tone (hypotonia or floppiness) would benefit from greater stimulation and excite-

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ment. Children's responses to various health conditions, personal interactions, and environmental stimuli vary tremendously, however, and each child must be assessed as an individual. For example, children with severe spasticity have demonstrated the ability to eat as well in a bustling cafeteria as in a quiet classroom, whereas children with hypotonia sometimes withdraw when they encounter stimulating environments.

Educational team members should be cognizant of how health, emotional, and environmental factors might influence a child's muscle tone. Of course, health care problems and unsatisfactory relationships need resolution, regardless of their effect on the child's muscle tone. Furthermore, when a child shows strong negative responses to the varied levels of stimulation encountered in natural environments, conscious efforts must be made to control the type and amount of stimulation. A balance must be sought, however, between protecting the child from undesirable stimulation and systematically teaching the child to develop the tolerance required for successful participation in typical life activities.

Posture and Movement Factors Rapid or jerky movements tend to stimulate muscle contractions, much like when a physician taps the patellar tendon at a person's knee joint. Conversely, slow, smooth, rhythmic movement, like rocking in a rocking chair, promotes relaxation. These principles apply as much to children with cerebral palsy as they do to other people. Therefore, spasticity often can be reduced by an adult slowly rocking the child in a rocking chair, slowly rotating the child's hips and shoulders in opposite directions, or slowly bending or straightening a limb while gently moving the limb side to side. A child who is floppy often can have his or her low tone increased by an adult bouncing the child on the lap, applying vibration to a group of muscles, or quickly tapping a body part in the direction of a desired movement.

Children with ataxic and athetoid cerebral palsy have muscle tone that fluctuates between high and low. For these children, the procedures described previously are alternated as necessary to reduce or increase the tone demonstrated at a particular moment. As noted previously, each child with cerebral palsy must be handled individually, with the particular type and intensity of motion determined by its effectiveness for that particular child. For some children, it may be necessary to experiment with numerous techniques before finding one that is effective to normalize tone. Many children with cerebral palsy also have primitive reflexes, which result in obligatory postures and movement patterns and concurrently interfere with normal muscle tone. When these reflexes are present, avoidance of reflex stimulating positions is essential to normalize tone.

Unfortunately, hypotonia often prevents children from experiencing the positions that stimulate postural control. In addition, spasticity increases as children attempt to move, preventing adequate movement experience. These situations illustrate that normal muscle tone is both the prerequisite for and the result of normal postural control and movement. For this reason, children with cerebral palsy derive the greatest benefit from relaxation and facilitation procedures when the procedures are applied to posture and movement activities in which the children are active participants (e.g., sitting, reaching, rolling). Although some children with spasticity are able to reduce their own muscle tone using biofeedback, there is no evidence that this alone leads to more normal movement (O'Dwyer, Neilson, & Nash, 1994).

Facilitating Normal Postures and Movement Patterns

Although the specific methods to achieve various positions and movements vary, three general principles remain the same: normalizing tone (discussed previously), "breaking up" atypical postures, and using "key points of control" (Bobath & Bobath, 1972). Children with cerebral palsy often become "locked" into abnormal postures that interfere with or completely prevent functional movement. For example, a child with flexor spasticity would tend to hold many or all joints in flexion, as depicted in Figure 3.3a. To break up this flexed posture, an opposite posture of greater extension must be achieved. It is not sufficient, however, simply to extend the hip, knee, and elbow joints, where flexion is most obvious. A closer look at Figure 3.3a reveals that there is not just an abnormal degree of flexion at many joints, but that the hips, shoulders, and other joints are also rotated into abnormal positions. Therefore, breaking up the flexed posture requires the child's arms and legs to be both extended and rotated in the opposite direction (see Figure 3.3b), while using the relaxation techniques described in

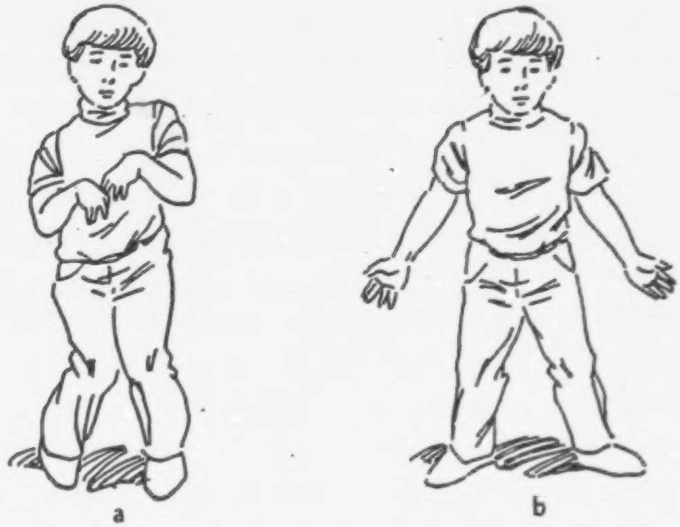

Figure 3.3. A child with increased muscle tone: a) standing with excessive flexion and internal rotation, and b) standing with the pattern reversed to increase extension and external rotation.

the preceding section. Frequently, rotation is more influential than either flexion or extension alone to break up abnormal postures.

The key points of control are those parts of the child's body where the facilitator can most effectively break up abnormal postures and elicit more normal postures and movement patterns. These key points of control are usually at the head, trunk, shoulders, and hips, with preference for the area of the body closest to the trunk where normal patterns can be elicited most effectively. The principles and methods of normalizing tone, breaking up abnormal postures, and using key points of control cannot be isolated from one another. Examples of how these principles are integrated and applied to achieve the goals of therapeutic handling are presented below.

Facilitating Upright Positions and Normal Posture The child depicted in Figure 3.4a has severe spasticity and cannot assume or maintain a sitting position independently. Note that the child's neck is extended and rotated, the shoul-

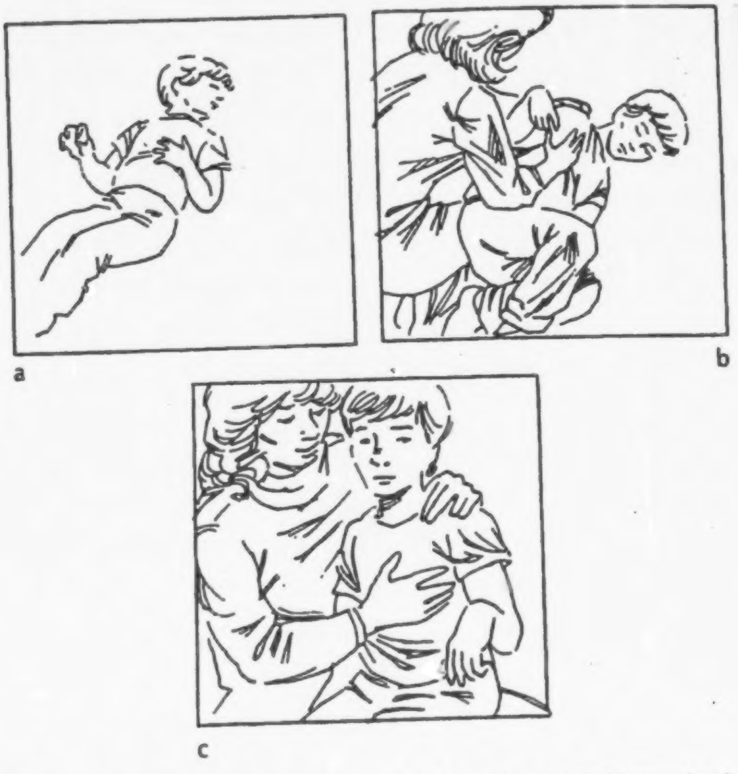

Figure 3.4. A child with spasticity: a) in an undesirable resting posture, b) relaxed and positioned on his side, and c) seated on the teacher's lap with his muscle tone controlled.

ders are extended, and the elbows, wrists, and fingers are flexed. The hips and knees are flexed slightly and pulled together (adducted). To position the child for instruction, the teacher first rolls the student from his back to his side, a position that is less likely to stimulate extension. The teacher uses the student's head, shoulders, and hips as key points of control, flexing and rotating his neck, bringing his arms together, and further flexing his hips and knees. At the same time the teacher gently rocks the student and rolls him onto his side (see Figure 3.4b). With the student in this position, the teacher lifts the student and seats him on her lap. The teacher keeps one hand behind the student's head and around his shoulders to keep his shoulders and arms forward and neck slightly flexed. When the student begins to extend his neck and push his head backward, the teacher tips his head forward with her elbow while pressing in and down on his breast bone and gently rocking the student side to side (see Figure 3.4c). Because the student continues to push into extension periodically, this *dynamic* positioning offered by the teacher is somewhat more effective in maintaining normal sitting posture than the *static* positioning offered by the student's adapted chair. Every effort is made to adapt the student's chair to provide the same type of control at the head, shoulders, and hips as the teacher provides, because sitting in a chair has both social and instructional advantages for the student.

The child in Figure 3.5a has low muscle tone (hypotonia) and cannot assume or maintain sitting independently. To position this student for instruction, the teacher will help him roll to the side and then push up to sitting. Using the student's shoulders as the key point of control, the teacher slowly turns the student's shoulders toward sidelying. The teacher uses a series of short, quick pushes to the shoulder to stimulate muscle tone in the student's trunk and to elicit his participation in rolling (see Figure 3.5b). With the student on his side, the teacher helps him use his arms to push upward (Figure 3.5c) to sidesitting, resting on his hands (Figure 3.5d), and finally, to longsitting (Figure 3.5e). The teacher continues to use short, quick, upward pushes to stimulate muscle tone in the student's arms and trunk and to elicit his participation in pushing up to sit. In sitting, the student's legs are positioned to give him a wide base of support, and his arms are positioned so he can continue to lean on them. The teacher keeps her hands on the student's shoulders to prevent falling and to give more quick pushes down through the back and arms, which increases the student's awareness of his position and stimulates his muscle tone (Figure 3.5e).

Although the previous two examples use therapeutic handling to achieve and maintain normal upright sitting postures for instruction, numerous positions (e.g., sidelying, kneeling, standing) have therapeutic and instructional value for students with multiple impairments. Table 3.1 presents the advantages and disadvantages of various positions that might be used in educational programs for students with severe and multiple disabilities. In addition to the immediate benefits of using upright positions, retrospective studies confirm that early development of head and trunk control is associated with later achievement of walking (da Paz, Burnett, & Braga, 1994; Trahan & Marcoux, 1994).

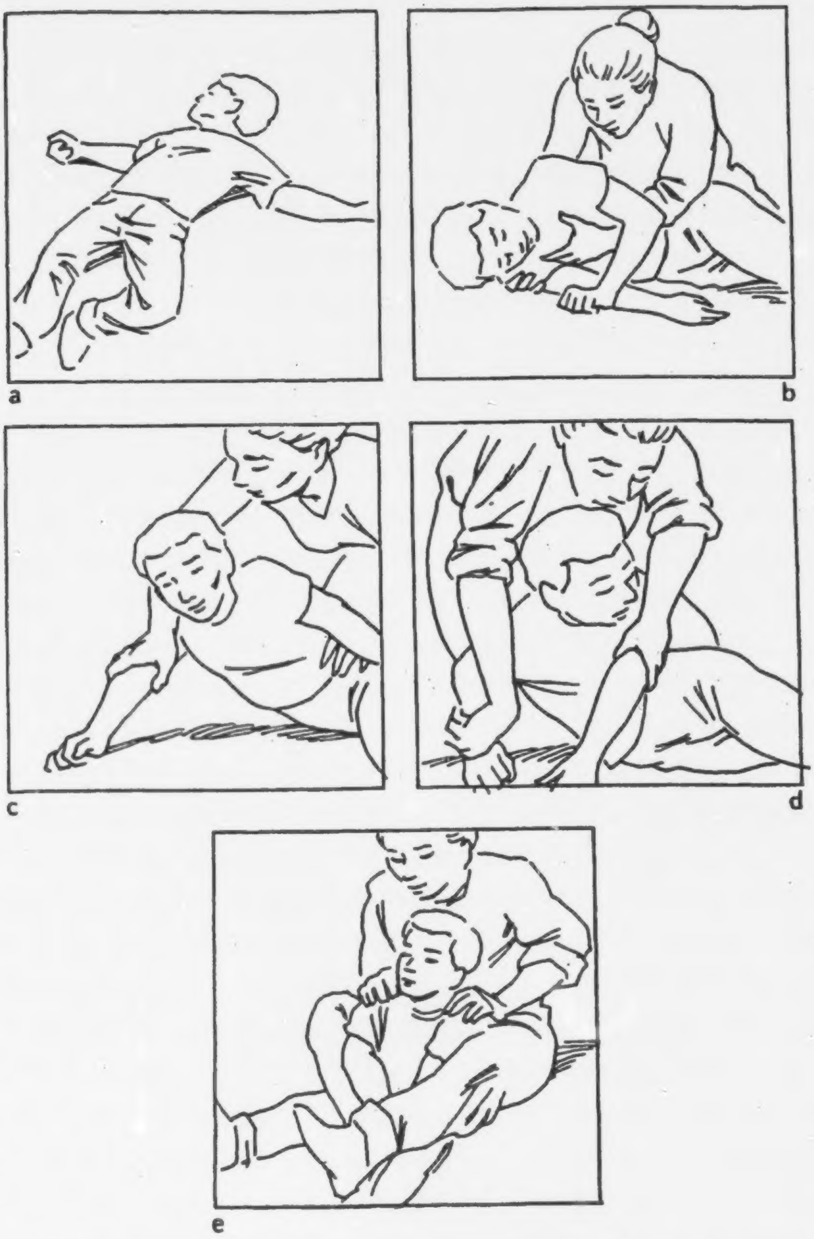

Figure 3.5. A child with hypotonia: a) unable to sit without assistance, b) being taught to roll to his side, c) pushing up to semisitting, d) then sidesitting, e) with pressure applied through the spine and shoulders to increase muscle tone and position awareness in the trunk and arms.

Table 3.1. Positions for students with physical disabilities

Position	Advantages	Disadvantages
Prone	Normal resting position; requires no motor control; promotes trunk and hip extension	Possibility of suffocation; stimulates asymmetry if head turned to side; may stimulate flexor tone; functional activities limited
Supine	Normal resting position; requires little motor control; no danger of suffocation; symmetry can be maintained	May stimulate extensor tone; prolonged position inhibits respiration; possibility of aspiration; ceiling view; functional activities limited
Prone on elbows	Encourages head, arm, and trunk control; allows improved view	May stimulate flexor tone; may stimulate excessive extension; tiring position; limits hand use
Sidelying	Normal resting position; usually does not stimulate abnormal tone; improves alignment, brings hands together at midline	May require bulky equipment; sideward view; few functional activities; pressure on bony prominences (hips)
Sidesitting	Easy to assume from lying, hands and knees, kneeling; promotes trunk rotation, range of motion in hips, trunk if sides alternated	May reinforce asymmetry; may require one or both hands for support; difficult with tight hips or trunk
Tailor- or ring sitting	Wide base of support; symmetrical position; easier to free hands	Difficult transition to/from other positions; may reinforce flexed posture
Long sitting	May provide wide base of support; may prevent hamstring contractures	Impossible with tight hamstrings; may stimulate trunk flexion, flexor spasticity
Heel or W-sitting	Easy transition to/from other positions; stable base of support; frees hands	Reinforces hip, knee, and ankle deformity; reduces reciprocal movement, weight shifting, and trunk rotation
Chair sitting—standard chair	Normal position and equipment; easy transition to/from other positions; minor adaptations can be added to improve position	May not provide adequate position for feet, trunk, hips; may be overused
Chair sitting—bolster chair	Reduces scissoring at hips; may increase anterior pelvic tilt	Bulky equipment; difficult transition to/from other positions

(continued)

Table 3.1. *(continued)*

Position	Advantages	Disadvantages
Chair sitting—corner chair	Inhibits extensor tone in trunk and shoulders	May encourage excessive flexion; may rotate trunk and pelvis
Chair sitting—wheelchair	Allows for positioning and mobility simultaneously; adaptations can control most postural problems	Chairs may be expensive, complicated, easily maladjusted; may become overreliant on chair
Kneeling	Promotes trunk and hip control; improves hip joint; possible despite knee flexion contractures; stabilizes hip joint	May cause bursitis at knees
Standing prone	Promotes trunk and hip control; standing stabilizes hip joint; allows access to normal work surfaces (e.g., counters)	May stimulate flexor tone; may stimulate excessive extension; may need hands for support; requires bulky equipment
Standing supine	Promotes trunk and hip control; stabilizes hip joint; hands free for work; head supported	May stimulate flexor tone; may not reach work surfaces; requires bulky equipment
Standing upright	Promotes greater trunk and hip control and balance	May require bulky equipment

Facilitating Automatic Movements that Maintain Balance When children learn to sit, kneel, or stand, they maintain their upright positions using automatic reactions such as protective reactions and righting reactions (Fiorentino, 1963). These automatic reactions are described in Chapter 2. *Righting reactions,* in which a person positions and maintains the head and trunk upright in space, are first seen when an infant lifts his or her wobbling head off a parent's shoulder. For children with multiple disabilities, experiencing upright positions is an important aspect of developing righting reactions. These reactions can be strengthened further by seating the child on an adult's lap, a stool, or the floor and gently tipping the child from the upright position. The key point of control might be at the child's head, shoulders, trunk, hips, or even the thighs, depending on the child's head and trunk control. *Protective reactions,* in which a person extends the arms to break a fall, start developing when a child bears weight on the arms in sitting and hands-and-knees positions (see Figure 3.6a). When a child with cerebral palsy can use the arms for the basic function of propping, facilitating more advanced protective reactions can involve holding the child's arm with wrist and elbow extended, gently pulling the child off balance, and positioning the arm to break the fall (see Figure 3.6b). In this example, the

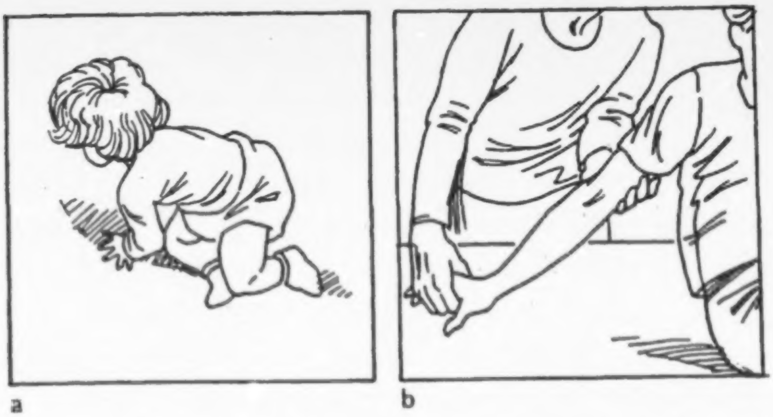

Figure 3.6. a) A young child using his arms to break a fall and resume sitting, b) assisting a child with cerebral palsy to extend and bear weight on his arm as part of a sequence for teaching protective reactions.

child's hand and elbow are the key points of control. There is some evidence that, in addition to improving balance, weight bearing on the hands and arms helps develop hand control among children with cerebral palsy (Chakerian & Larson, 1993).

Facilitating Locomotion for Independent Mobility Children move around their environments by rolling, crawling on their stomachs, creeping on hands and knees, knee walking, and walking. Children may also move by driving a wheelchair or by riding a tricycle or bicycle. Teaching any means of mobility to children with cerebral palsy requires them to maintain relatively normal postures while coordinating smooth movements of the arms, legs, and trunk. Although commando crawling and creeping on hands and knees are considered basic locomotor patterns, encouraging their use is counterproductive for many children with cerebral palsy. The prone position and the movements themselves may stimulate so much flexor tone in the trunk and limbs that effective movement is impossible. Rolling, riding an adapted tricycle, or driving an electric wheelchair are more successful alternatives for children with severe cerebral palsy. Mobility equipment that improves a child's positioning, like posterior walkers, also tends to improve the quality and efficiency of movement (Greiner, Czerniecki, & Deitz, 1993).

The movement requirements for independent mobility can be analyzed much like those of any task. (This type of analysis requires the teacher's skills in task analysis to be combined with the therapist's knowledge of normal movement patterns and offers an excellent opportunity for collaboration between teacher and therapist.) Table 3.2 presents a task analysis for rolling, showing both the movements to be performed by the student and the key points for facili-

Table 3.2. Task analysis for rolling

Student movements	Staff key points[a]
Supine lying, extend right arm overhead	Move at right upper arm
Rotate head and shoulders to face right	Stabilize at right upper arm; move at left shoulder
Swing left leg over and forward	Stabilize at left shoulder; move at left thigh (prevent trunk, hip, and knee flexor pattern)
Extend left arm over head and roll to prone	Move at left upper arm (prevent pushing up on elbows)
Plant right hand next to right shoulder	Stabilize at left upper arm; move at right elbow
Rotate head and push right shoulder up to face right	Stabilize at left upper arm; move at right upper arm
Swing right leg over and backward	Stabilize at left upper arm; move at right thigh (prevent trunk, hip, and knee flexor pattern)
Roll supine, bring head to midline, and bring left arm down to side	Move at left forehead and left upper arm

[a] Parenthetical notations indicate postures the student tends to assume during rolling, which the staff must be prepared to inhibit if necessary.

tation by the teacher. The task analysis for another student might have different components depending on the type and extent of that student's independent movement and atypical postures. The movements required for other forms of independent mobility can be analyzed in the same way.

Facilitating Arm and Hand Movements for Task Performance The previous sections have offered examples of facilitating arm movement for weight-bearing functions. Although it had been believed that proximal control and weight bearing were prerequisites for skillful hand use, research on typically developing children suggests that these abilities evolve simultaneously with distal control and reach, grasp, and object manipulation skills (Case-Smith, Fisher, & Bauer, 1989; Loria, 1980). Furthermore, children with cerebral palsy tend to use total patterns of movement (e.g., they are unable to isolate elbow or finger movement), so it is useful to facilitate patterns of movement that involve the entire upper limb: shoulder, elbow, wrist, and fingers. Arm and hand movements required to perform functional activities can be analyzed, as was done for rolling in Table 3.2 (see, e.g., Safaee-Rad, Shwedyk, Quanbury, & Cooper, 1990). The only essential prerequisites for trying to facilitate functional arm and hand movement (e.g., for reach, grasp, and manipulation) are 1) that the student be positioned with sufficient support so the hands are not needed to stabilize the body, and 2) that the student's position promotes normalization of tone throughout the trunk and limbs.

The student depicted in Figures 3.7a and 3.7b has flexor spasticity, which interferes with reaching for the washcloth, grasping it, or bringing it to his face. To facilitate these movements, the teacher provides control at the student's upper arm, forearm, and hand. The teacher first normalizes the student's tone by slowly rotating his arm inward while moving his arm down and away from his body. When the teacher feels the student participating in these movements, she repeats the same pattern, helping the student pick up the washcloth and bring it to his face (see Figures 3.7c and 3.7d). If the student's tone starts to increase, the teacher resumes the rhythmic pattern of arm movement. The student is encouraged to participate in the activity to the greatest extent possible while maintaining functional movement. Using the principle of key points of control, the teacher facilitates at the part of the arm closest to the trunk where normal move-

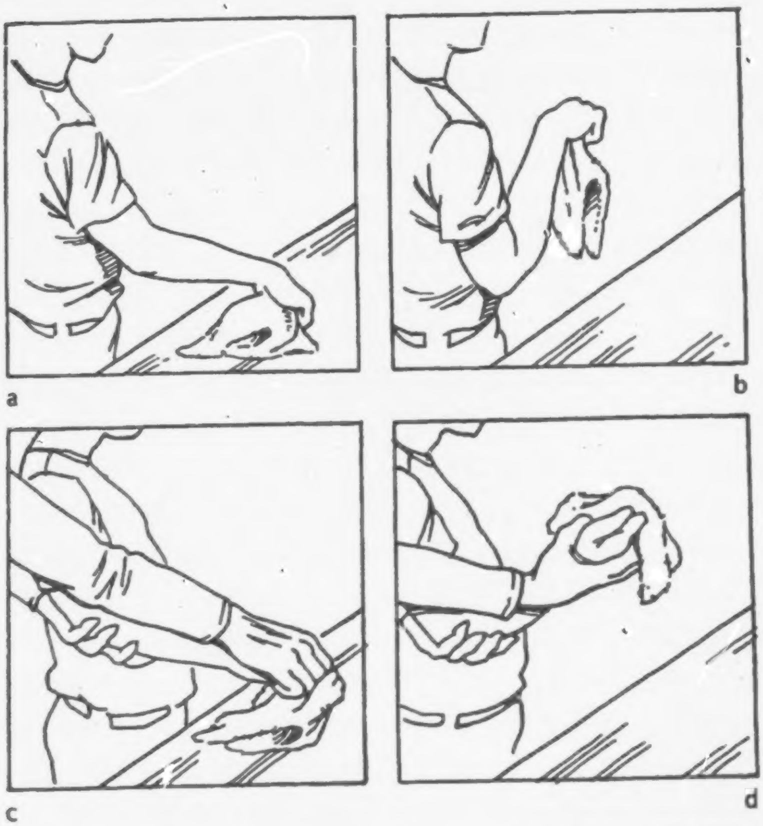

Figure 3.7. a) and b) A child with increased flexor tone trying to bring a washcloth to his face, c) and d) a teacher facilitating more typical and efficient movement for picking up and bringing the washcloth to his face.

ment patterns can be elicited. Generally, the key point is at or just below the joint to be moved. One exception to this rule occurs when opening a fisted hand. The anatomy of the hand makes it possible (and easier) to open a fisted hand by flexing the wrist joint, which automatically extends the fingers. Then the teacher can hold the student's fingers extended while gently extending the wrist (see Figure 3.8) and proceed with the activity. It must be noted, however, that efforts to open the student's hand and facilitate hand use will not be successful if the student's entire posture is not addressed.

Facilitating Oral Movements for Eating and Speech The methods used to facilitate oral movement are discussed thoroughly in Chapter 4. It is appropriate to emphasize here the importance of normalizing overall postural tone and positioning the student upright with sufficient support to the trunk and head to allow concentration on oral activity. Without addressing these prerequisites, no oral facilitation techniques will be powerful enough to overcome the resulting abnormalities.

Validity of Therapeutic Handling

According to neurodevelopmental treatment theory, handling provides the experience with normal postures and movement through which children with cerebral palsy learn to control their muscle tone (Bobath, 1980). Research on the effects of neurodevelopmental treatment, however, has demonstrated no significant improvement for many of the children studied (DeGangi, Hurley, Linscheid, 1983; Lilly & Powell, 1990; Noonan, 1984). Whereas Noonan noted that treatment effectiveness is correlated with (not necessarily determined by) children's intelligence, others have concluded that intelligence strongly influences treatment outcomes for children with cerebral palsy (Goldkamp, 1984; Parette & Hourcade, 1984). The interaction, however, between treatment outcomes and other variables (e.g., frequency, duration, context, goals of treatment) has not been studied enough to draw conclusions (Campbell, 1990). With up to 60% of children with cerebral palsy thought to have mental retardation (Eicher & Batshaw, 1993), greater attention must be given to methods to improve treatment results for children with multiple disabilities.

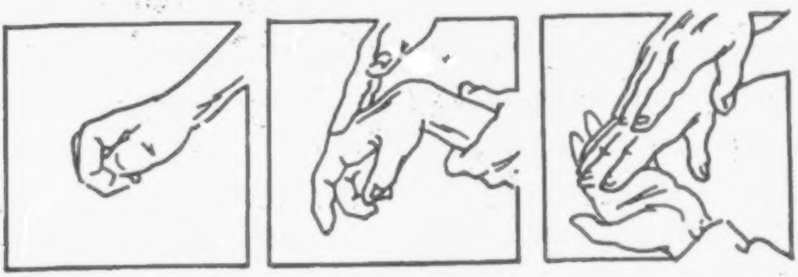

Figure 3.8. Opening a fisted hand by changing the wrist position.

Demonstrating the effectiveness of intervention is also influenced by the method of measuring change. Efficacy research typically has used standardized assessment tools that are insensitive to small increments of change. DeGangi (1994a, 1994b) has demonstrated the effectiveness of neurodevelopmental treatment for four young children through a case study approach, which supplemented standardized motor assessment with individualized checklists of both movement quality and specific motor skills assessed by parents and therapists. Although research is limited, encouraging results have been reported when aspects of systematic instruction and neurodevelopmental treatment have been combined. In studies by Campbell, McInerney, and Cooper (1984) and Giangreco (1986), four children with multiple disabilities all improved significantly when therapeutic handling techniques were combined with frequent practice in meaningful contexts (e.g., reaching for microwave oven door) and when movement immediately elicited desirable consequences (e.g., lunch from the microwave oven). In these applications, handling might be viewed as a specialized form of physical prompting that applies to posture and movement disorders. Such an integration of handling and systematic instruction procedures concurrently addresses the cognitive, movement, and motivational needs of children with multiple disabilities. Other research concludes that children can help their siblings with cerebral palsy achieve a variety of treatment goals, affirming the importance of involving all people in the child's environment (Craft, Lakin, Oppliger, Clancy, & Vanderlinden, 1990). This comprehensive approach offers the greatest possibilities to evaluate therapeutic handling techniques adequately and to teach children with multiple disabilities effectively.

POSITIONING STUDENTS WITH CEREBRAL PALSY

Therapeutic positioning is the placement of body parts in postures to achieve the following goals:

1. To maintain normalized muscle tone
2. To maintain alignment of body parts
3. To maintain stabilization of body parts
4. To promote active participation in meaningful activity

Although the first three goals are critical, they are not ends in themselves; rather, they are means to achieve the ultimate goal of preparing a person to perform functional activities. Proper positioning is an essential prerequisite for effective instruction of students with multiple disabilities.

Positioning can be either *static* or *dynamic*. Dynamic positioning is achieved and maintained entirely through therapeutic handling; static positioning is maintained through use of adapted equipment. Static positioning is considered a supplement to, rather than a substitute for, dynamic positioning. Prior to positioning a child in an adapted chair, for example, therapeutic handling techniques are applied to place the child in a sitting position with tone normalized and the body properly aligned. Without performing this dynamic positioning first, it becomes difficult to achieve any of the four goals listed above through static positioning. There are advantages, however, to providing static positioning with adapted equipment. These include 1) making the student more mobile, 2) freeing the student from a one-to-one relationship with parents or educational staff, 3) freeing staff from positioning to provide instruction and to facilitate other types of student performance, and 4) enabling students with disabilities to participate in activities with peers without disabilities without constant adult presence.

In addition to the therapeutic benefits of positioning, researchers have identified several functional benefits for providing children with physical disabilities with adapted equipment for positioning. Benefits include the following:

1. Children at school maintained upright postures longer, attended to and participated in more instruction, and learned to perform academic and self-care tasks more quickly and more independently (Trefler, Nickey, & Hobson, 1983).
2. Children at home spent less time lying in their bedrooms, spent more time sitting and less time lying down, maintained better alignment in upright postures, improved their abilities to eat and drink, increased their abilities to grasp objects and feed themselves, and spent more time interacting with others (Hulme, Poor, Schulein, & Pezzino, 1983; Hulme, Shaver, Acher, Mullette, & Eggert, 1987).

When positioning equipment also provided a means of mobility (e.g., wheelchair), the following additional benefits were demonstrated:

1. Children went more places outside of their homes (Hulme et al., 1983).
2. Children (and their families) engaged in more social activities, had more contact with peers outside of school, increased their participation in activities in school, and had greater independence in all environments (Kohn, Enders, Preston, & Motloch, 1983).
3. Children engaged in more positive social interactions, became more curious about the environment, and became interested in other activities involving movement (e.g., playing baseball, going hiking) (Butler, 1986; Butler, Okamoto, & McKay, 1983).

To achieve therapeutic positioning for children with multiple disabilities, team members should understand the purpose of the various types of equipment and procedures for effective positioning. The following sections provide information on positioning with chairs; braces, splints, and casts; and other pieces of equipment.

Positioning in Adapted Chairs

Sitting is a traditional position and therefore a "normal" position for children in educational settings. Sitting in adapted chairs allows children with physical disabilities to be in the same upright position, to be at the same eye level, and to use the same work surfaces as their peers without disabilities. Sitting in wheelchairs has the added benefit of providing children with a means of mobility that is a commonplace alternative to walking. Studies of the use of wheelchairs and other adapted seating reveal that children with physical disabilities spent 2–4 hours per day in wheelchairs at the ages of 2 and 3 years (Butler et al., 1983) and 4–6 hours per day at a somewhat older age (Hulme et al., 1983), increasing to an average of 9 hours per day by adolescence (Kohn et al., 1983). Despite such extensive use and ongoing technological developments, adapted chairs do not always meet the needs of children with neuromuscular disabilities. Problems may result from poor selection (design and/or measurement) by rehabilitation professionals, poor acceptance by the child or family, or poor placement of the child in the seat by caregivers (Hundertmark, 1985; Kohn et al., 1983). Considering the amount of time many children spend in adapted chairs, it is essential that educators understand and execute principles of effective seating to minimize the problems resulting from the situations identified previously and to maximize therapeutic and functional benefits. Figure 3.9 is a checklist for assessing the

PELVIS AND HIPS
____ Hips flexed to 90°
____ Pelvis tilted slightly forward
____ Pelvis centered in the back edge of seat
____ Pelvis not rotated forward on one side

THIGHS AND LEGS
____ Thighs equal in length
____ Thighs slightly abducted (apart)
____ Knees flexed to 90°

FEET AND ANKLES
____ Aligned directly below or slightly posterior to knees
____ Ankles flexed to 90°
____ Feet supported on footrest
____ Heel and ball of feet bearing weight
____ Feet and toes facing forward

TRUNK
____ Symmetrical, not curved to the side
____ Slight curve at low back
____ Erect upper back, slight extension

SHOULDERS, ARMS, AND HANDS
____ Relaxed, neutral position (not hunched up or hanging low)
____ Upper arm flexed slightly forward
____ Elbows flexed in midrange (about 90°)
____ Forearms resting on tray to support arms and shoulders if necessary to maintain alignment
____ Forearms neutral or rotated downward slightly
____ Wrists neutral or slightly extended
____ Hand relaxed, fingers and thumb opened

HEAD AND NECK
____ Midline orientation
____ Slight chin tuck (back of neck elongated)

Figure 3.9. Checklist for seated positioning. (From York, J., & Weimann, G. [1991]. Accommodating severe physical disabilities. In J. Reichle, J. York, & J. Sigafoos, *Implementing augmentative and alternative communication: Strategies for learners with severe disabilities*, p. 247. Baltimore: Paul H. Brookes Publishing Co.; reprinted by permission.)

application of these principles to seating students with physical disabilities. The items on the checklist were derived from an analysis of efficient seated positioning of individuals who do not have physical disabilities. The principles outlined previously for positioning children in adapted chairs apply directly to positioning in other types of equipment. Similar checklists can be developed to guide positioning in other equipment. The checklist is meant to serve only as a guide, however, and there may be individuals for whom specific items on the checklist are inappropriate.

Positioning the Pelvis When a child with physical disabilities is positioned in an adapted seat, the pelvis becomes the key point of control. The pelvic bones in the lower trunk are attached to the backbone, the thigh bones (femurs), and the trunk and leg muscles. The hips provide the base of support for the trunk and therefore influence trunk alignment and posture, head position, and arm use. To provide the proper base of support, the right and left side of the pelvis must be level so the child sits evenly on both hips (see Figure 3.10). When the pelvis is not level, lateral pelvic tilt and curvature of the spine (scoliosis) interfere with normal digestive and respiratory functions and may contribute to dislocation of the hip (Kalen & Bleck, 1985). The top of the pelvis should also be tipped forward slightly to maintain the normal arch in the low back (lumbar lordosis) and to prevent spasticity in the low back muscles (Hundertmark, 1985). A lumbar roll in the low back area of the seat may help produce this position (see Figure 3.11).

Therapists have observed that seating children upright with hips and knees flexed to 90° often minimizes the influence of primitive reflexes and spasticity, while providing a functional work position. Bringing the trunk forward an additional 15°, with or without additional hip flexion, reduces spasticity in the low back extensors of children with cerebral palsy (Myhr & von Wendt, 1991;

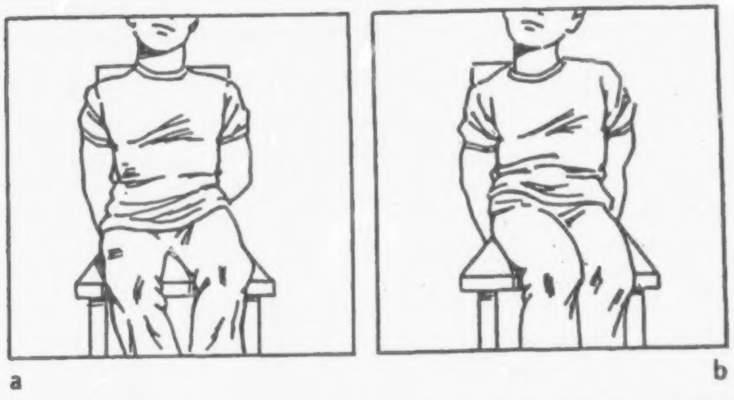

Figure 3.10. Alignment of the hips in a seated position: a) with the pelvis symmetrical, and b) with the pelvis tilted, causing poor alignment of the trunk, shoulders, head, and legs.

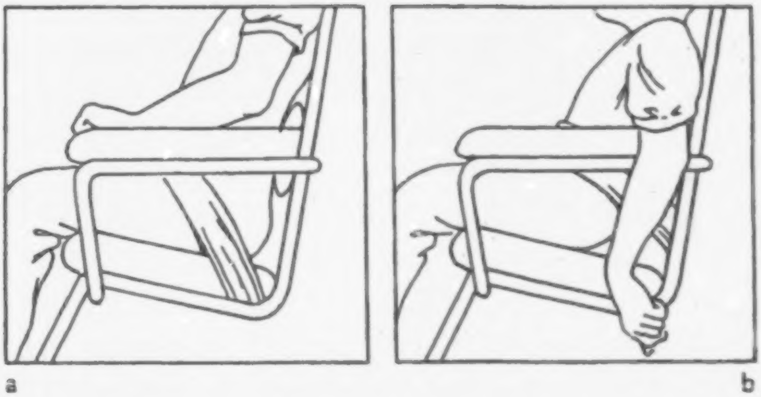

Figure 3.11. Sitting in a chair: a) with a seat belt keeping hips flexed and lumbar roll supporting the low back, and b) with the seat belt improperly positioned across the abdomen.

Nwaobi, Brubaker, Cusick, & Sussman, 1983; Nwaobi, Hobson, Eng, & Taylor, 1988). The appropriate hip angle generally is determined at the time the child is fitted with a chair and then is built into the chair. This therapeutic angle in the chair is effective, however, only when the child's hips are properly flexed prior to placement in the chair. With some children, it is helpful to tip the chair backward during positioning so gravity aids, rather than interferes, with placing the hips back in the chair. Tipping a chair 30° has been found to increase tone in low back extensors, hip adductors, knee flexors, and ankle plantar flexors (Myhr & von Wendt, 1993; Nwaobi, 1986), so the benefit of tipping the chair needs to be assessed for each child. Once the child's hips are well aligned and positioned in the chair, a seat belt maintains the position. The seat belt crosses the bend in the hip joint (see Figure 3.11) and is tightened as needed to allow the child freedom of movement in the hips while still holding the therapeutic position of the pelvis. The seat belt should not be placed across the child's abdomen because it will put pressure on internal organs and tip the top of the pelvis backward, both upsetting the base of support and increasing spasticity (Myhr & von Wendt, 1993). Figures 3.10a and 3.11a illustrate the correct positions, and Figures 3.10b and 3.11b illustrate the incorrect positions for the pelvis and seat belt. Seat belts and other positioning aids that restrict mobility and cannot be easily removed by the individuals who are wearing them may be considered to be restraints. The use of restraints is rarely ethically justified and is subject to strict legal regulation. Any team member considering the use of a positioning device that might be considered a restraint should consult fully with the team and seek legal advice if necessary before application.

Positioning the Thighs With the hips stabilized in the chair, the child's base of support is improved further by positioning the thighs. The preferred position is with the legs symmetrical and the thighs slightly separated. If the student's thighs pull together, a wedge may be necessary to position them (see Figure 3.12). An abduction orthosis, two connected thigh cuffs worn just above the knees, has been shown to decrease spasticity and improve positioning (Myhr & von Wendt, 1993). Less frequently, children pull their thighs far apart, which requires pads to push them closer together. If one or both hips are dislocated, it may be difficult to keep the thighs in a symmetrical position. In this event, first consideration is given to the position of the pelvis in relation to the child's back and the back of the wheelchair. (Positioning the trunk is discussed in a later section.) The thighs are positioned the best way possible without disturbing the position of the pelvis. Some older children have such serious deformity of the hips and back that they develop a difference in leg length or a deviation of both legs to one side in a "windblown" deformity. When this occurs, the chair seat might be extended forward on one side so that the full length of both thighs is supported (see Figure 3.13). To provide good support for the thighs, the seat should extend to approximately 1 inch from the back of the calf. A deeper seat puts pressure on the blood and nerve supply behind the knee and pulls the hips forward in the chair.

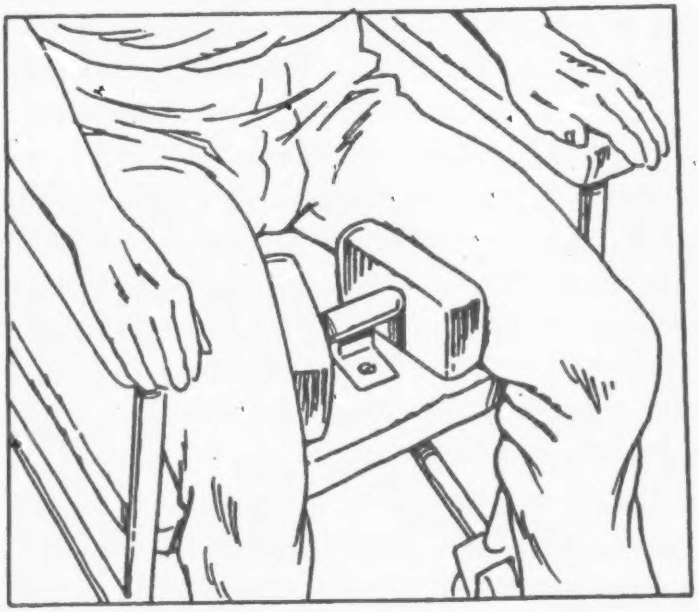

Figure 3.12. A wedge positioned between the thighs to keep them separated and aligned for a stable seating base. (Note that the wedge is not placed against the pelvis. It must not be used to keep the child from sliding forward.)

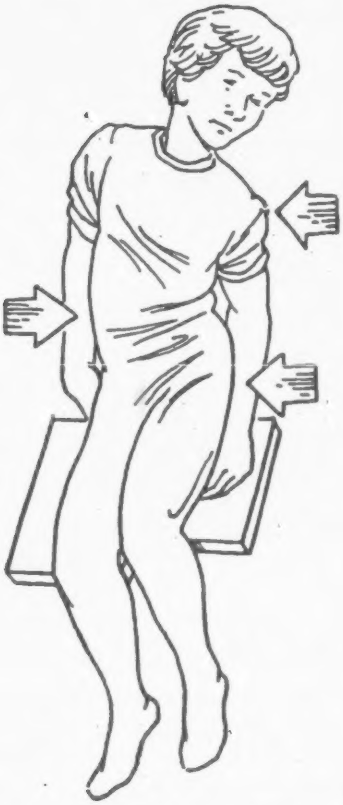

Figure 3.13. A child with severe scoliosis and leg length difference, resulting from hip dislocation. The seat is lengthened on the right side to support the right leg without putting pressure on the back of the left knee. The arrows indicate where lateral supports would be placed to provide counterpressures to achieve optimal alignment.

Positioning the Feet Once the hips and thighs have been positioned, they can be stabilized further by positioning the feet. The feet are supported by a footrest directly below the knees, or behind the knees if the child has flexor spasticity or contractures (Myhr & von Wendt, 1991). If the child has a severe "windblown" deformity, it may be necessary to adjust the foot position to one side. The footrest can have straps or built-up sides to keep the feet positioned and to prevent them from being bumped or entangled in the chair. The feet are positioned flat with the toes straight forward to prevent ankle deformity. The footrest should be low enough so the thighs rest comfortably on the chair seat and high enough so the child's weight is distributed between the seat and footrest. If the footrest is too high, the thighs will be lifted off the seat, decreasing stability, shifting the child's weight back onto the hip bones, decreasing comfort, and increasing the possibility of pressure sores. If the footrest is too low, the feet will hang and the weight of the legs will create pressure on the blood and nerve supply behind the knees. If the child has knee extension contractures or poor circulation, it may be necessary to elevate the feet and legs. In this situation, attention is given to supporting the calves and feet and to preventing ankle deformity, excessive rotation of the legs, or localized pressure on the heels. Although the foot position reinforces the hip and thigh position, only quick and temporary foot placement may be possible before the trunk and head are stabilized, especially if the child has poor trunk and head control. Once the upper body is positioned properly, attention is redirected to the feet.

Positioning the Trunk and Head For the best alignment of the trunk, the shoulders should be directly over the hips. A child with poor trunk control may wear a harness, secured at the hips with a lap belt and secured at the shoulders to the back of the chair. If the child falls to the side, lateral supports may be necessary. The lateral supports may come forward from the back of the chair at the level of the rib cage or may be attached to the child's tray. A molded support for the front and sides of the chest can provide effective positioning when the chair tips the child's trunk forward (Pope, Bowes, & Booth, 1994). Children with scoliosis or other back deformity may require more specialized adaptations. The back of the chair may be built up in some areas and cut out in others to provide support to areas of the child's back that curve inward and relieve pressure from areas that curve outward. Lateral supports are most effective when placed at the extreme points of the curve, providing counterpressure to straighten the curve or to prevent increased deformity (see Figure 3.13). To provide comfortable and effective positioning for children with very severe back and hip deformity, it may be necessary to mold a plastic or foam seat to the child's body. Some children move about independently despite severe scoliosis or other deformity. For these children, scoliosis pads and other types of chair adaptations are not as effective for long-term positioning as braces, which are discussed later.

The stable and well-aligned trunk provides a good base of support for the student's head. Achieving and maintaining an appropriate head position, with the head erect and chin tucked, remains one of the greatest challenges when positioning children with equipment. Children with poor head control may benefit from pads placed behind and/or beside the head. In some situations, it may be necessary to use a "halo," which surrounds the head and provides anterior as well as lateral support. Even more control can be gained with an overhead sling that provides support under the chin, at the base of the skull, and on both sides of the head. Although simply having the child in an upright position tends to stimulate head control (Trefler et al., 1983), positioning combined with sensory feedback and contingent reinforcement (Domaracki, Sisson, Robinson-Dassel, Hamilton, & Goldstone, 1990; Murphy, Doughty, & Nunes, 1979) can further improve head control and decrease the need for head supports.

Positioning the Arms Students with adapted chairs often have trays, used to provide a work surface and to provide additional support. The tray should be high enough to allow the student to rest both elbows and forearms on the tray without bending the trunk forward. For children with poor head and trunk control, leaning on the tray provides greater voluntary control of the shoulders, and in turn, more stability for the trunk and head. As noted previously, lateral trunk supports can be mounted on the tray. Other pads, straps, or pegs also can be attached to the tray to facilitate arm positioning. Naturally, the tray must be large enough to accommodate the various adaptations and the student's work materials, while remaining small enough to fit through doorways. If the only purpose of the tray is to provide a work surface, it may be preferable to dispense with the tray and position the student at a table. This alternative would provide the students with a more typical work situation and opportunities for more interactions with teachers and peers. Students who do not need extensive chair adaptations can transfer from their wheelchairs to regular classroom chairs for table work, increasing their normalization. With regular furniture, students still need their feet positioned flat on the floor or on a footrest; the table should be just high enough to allow the students to rest their elbows and forearms (Sents & Marks, 1989).

Determining the Need for Positioning Adaptations When positioning children with physical impairments, the dangers of providing too much or too little control must be considered. The obvious danger of providing too little control is that proper positioning is not maintained, and therefore fails to offer experience in aligned and upright postures, allows deformity, and hampers participation in instructional activities. In fact, research conducted with preschoolers showed that poor positioning lowered performances on IQ tests, both for children with cerebral palsy (Miedaner & Finuf, 1993) and for children who had no motor impairments (Sents & Marks, 1989). Providing too much support is also potentially dangerous, however, because some children will rely on whatever support they are given, using their own motor skills as little as possible and eventually losing rather than gaining abilities. Maintaining too much external control also limits opportunities to improve motor skills and to develop internal control. Maintaining adaptations and monitoring their use is a time-consuming responsibility that should be eliminated if the adaptations are not necessary. Furthermore, chair adaptations increase the time and difficulty of seating the child for work or transportation and removing the child for repositioning or emergencies. Finally, the presence of numerous adaptations on a chair may elicit undesirable reactions, such as pity or apprehension, that should be minimized. Although unnecessary adaptations can be completely eliminated from chairs, even essential controls or supports might be removed at certain times of the day. For example, a student might need a headrest during transportation but not when listening to a story. During eating, the static positioning offered by the headrest might be less beneficial than dynamic positioning, in which the teacher puts one hand on the student's head only when stabilization is needed.

When positioning children with multiple disabilities in adapted chairs or other equipment, it is necessary to view each child as an individual. An adaptation that is necessary or effective for one child may be neither for another child. Many minute adjustments may be necessary before a chair adaptation has the desired effect. Once the desired effect is attained, change in the child's size or condition may necessitate more modifications. These warnings are not meant to be discouraging; they emphasize that positioning equipment is not a quick cure but a tool to be used skillfully. In the same way, chair positioning has many advantages for children with multiple disabilities, but it cannot meet all the positioning needs of any child. Therefore, a variety of positioning options should be considered for each child. Selecting the proper pieces of equipment requires knowledge of what equipment is available or technologically feasible and how that matches therapeutic, functional, and social needs and goals of the individual child and family (Taylor, 1987). *Exceptional Parent* magazine regularly provides resource guides to commercially available adapted equipment. To ensure access to the full range of positioning apparatus, rehabilitation equipment specialists as consultants are now essential members of teams for children with multiple disabilities (Hedman, 1990).

Alternative Positions

In selecting a variety of positions for a student with physical disabilities, the educational team addresses each of the following questions:

- What postures should be reinforced?
- What postures should be avoided?
- What functions must be performed?
- What are the social contexts?
- What positioning alternatives are possible in the course of the day?

The postures to be reinforced may be any in which the child is currently developing greater control. The postures to be avoided are those that reinforce primitive reflexes, deformities, abnormal postures, or abnormal movement patterns. (These considerations are outlined in Table 3.1.) An analysis of the function to be performed requires an evaluation of the postural and movement demands of the tasks involved. A good frame of reference for this analysis is to consider how people without disabilities perform the task. To perform the task of face washing, discussed previously in this chapter, a student must be able to see the task area and reach the materials (e.g., water, soap). Although a basin of water might be placed on a table or tray where the student sits, it is awkward to put both hands in a basin at chest height, and it may be difficult to see to perform the task. Removing the child from the sink also eliminates the possibility of performing important steps in the task, such as turning the water on and off. Children with physical disabilities may be unable to use the "normal" position of standing unsupported at the sink for face washing. Many children can perform the task while standing in a prone stander or parapodium stander, either of which gives postural support, frees the hands sufficiently to perform the task, provides a clear view and good access to the necessary materials, and approximates the normal position for the activity. Figures 3.14 and 3.15 show a child washing dishes at home while standing at the sink in a prone stander. This child is also pictured lying on her side to watch television (see Figure 3.16) and, with her sister, prone over a wedge strumming a guitar (see Figure 3.17). These positions accommodate the performance demands of the activities and simultaneously facilitate normal postures and movements. Of equal importance, the child's daily routine provides natural opportunities to use a variety of therapeutic positions.

Another consideration in determining appropriate positions is the social context in which activities will be performed, both currently and in the future. The child in Figures 3.14 and 3.15 is engaged in activities at home, using positions that are suitable for the social context of her home. Within a self-contained special education classroom, these positions might still meet the social norm. If this child is included in general education classes, however, sitting may be preferable to enhance social interactions because other students sit in chairs for many of their classes. Experiences in inclusive elementary and secondary schools have shown that typical students are extremely accepting of less traditional positioning, especially when they understand the reason for alternative positions.

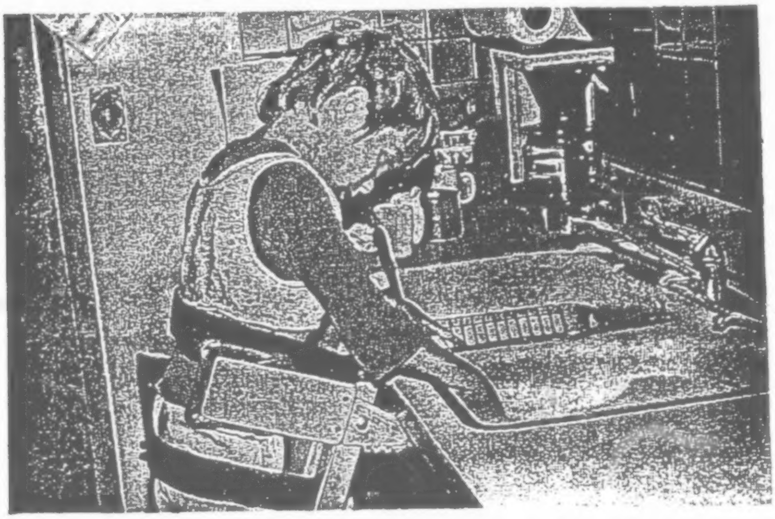

Figure 3.14. Therapeutic positions are matched with normal daily living activities for this girl with cerebral palsy. In this picture she stands in a prone stander to wash her lunch dishes.

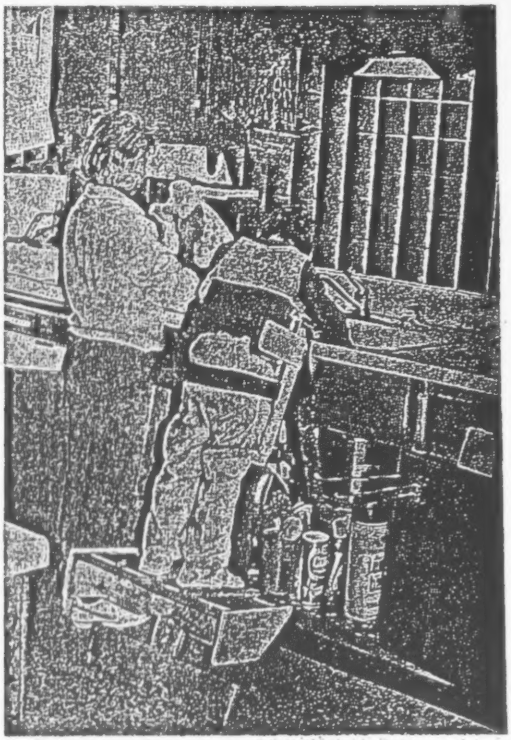

Figure 3.15. Here is another view of the girl using a prone stander to assume the common position for dishwashing.

Finally, the educational team must consider the various positions available to the students over the course of the day. Medical professionals have long recognized that immobility has adverse effects on motor, cardiovascular, respiratory, gastrointestinal, urinary, and metabolic functions (Olson, 1967). Prolonged sitting invites hip and knee flexion contractures and other deformities, particularly for children who cannot independently assume other positions (Fulford & Brown, 1976). Some muscles will develop contractures unless they are in a lengthened position for a minimum of 5 hours per day (Tardieu, Lespargot, Tabary, & Bret, 1988). Once deformities develop, the best positioning does not reverse contractures of muscles and tendons (Kunkel et al., 1993; Lespargot, Renaudin, Khouri, & Robert, 1994). Sitting motionless creates circulatory problems underneath the hip bones, with noticeable changes occurring after just 30 minutes and pressure sores developing in as little as 1–2 hours (Garber, 1985). Intense pressure, friction on the skin, or irritation from urine all increase the possibility of skin breakdown over bony areas when children with severe physi-

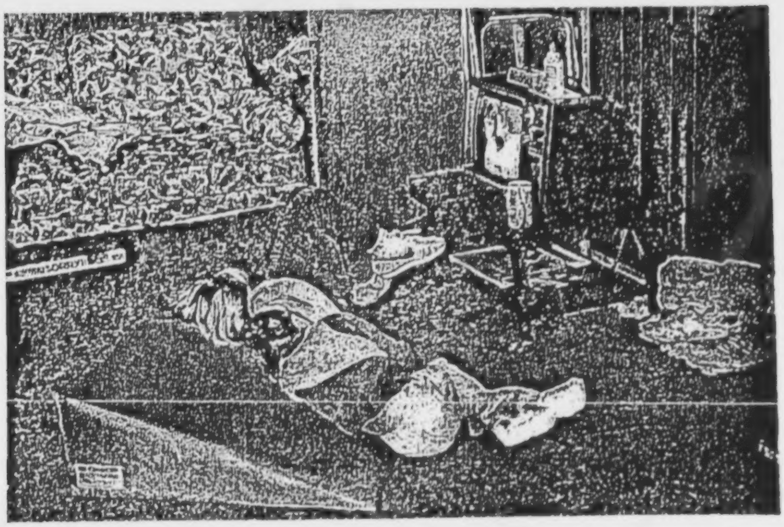

Figure 3.16. Recumbent positions are natural for leisure activities at home. The girl lies on her side to watch television.

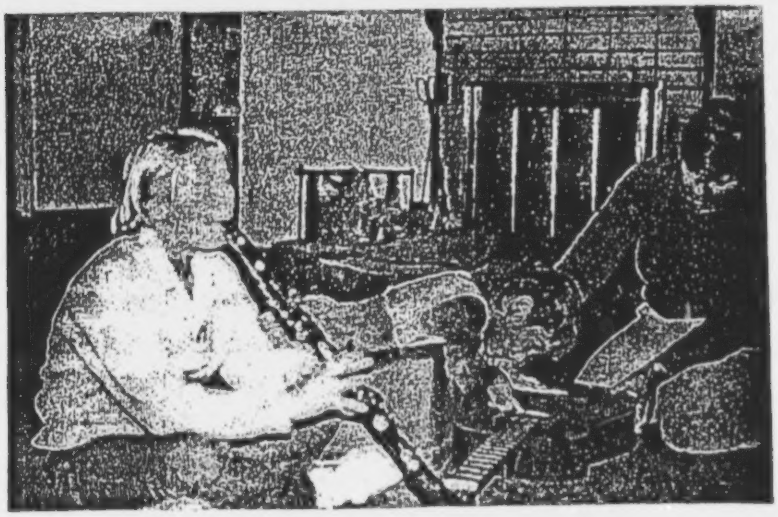

Figure 3.17. For leisure activity, the girl lies on her stomach over a small wedge to strum her guitar.

cal disabilities remain in the same position for long periods. Immobility and lack of weight bearing on the legs contribute severely to osteoporosis (Kaplan, 1983), which is irreversible (Kunkel et al., 1993). Immobility and poor positioning interfere with pulmonary function and are directly related to shortened life expectancy for people with profound disabilities (Eyman, Grossman, Chaney, & Call, 1990; Nwaobi & Smith, 1986). For these reasons, it is important that children experience a variety of positions. A good rule of thumb is for students to have at least two different positions between which they can alternate, and for these positions to be changed at least once an hour, preferably every 30 minutes. Table 3.3 presents a list of positions, equipment that might be used to achieve positions, and activities that typically would be performed in those positions. It is useful to develop a positioning plan to ensure that each student's positioning matches daily activities while alternating between positions in which 1) the head and trunk are upright, then reclined; 2) the hips and knees are flexed, then extended; and 3) weight bearing is on the hips and thighs, then on other body parts (preferably on the feet). The relative importance of each consideration depends on the student's risk for the health and therapeutic concerns identified previously. A positioning plan is presented in Figure 3.18 for a 14-year-old boy with severe physical disabilities who attends an inclusive middle school program.

Braces, Splints, and Casts

Braces and splints are prescribed when 1) other positioning is not effective to maintain normal posture or alignment, 2) children are too active to remain in sta-

Table 3.3. Activities and equipment for alternative positions

Position	Typical activities	Standard equipment
Lying prone or supine	Resting, sunbathing	Mat or bed, pillow, wedges, rolls, sandbags
Sidelying	Resting, looking at books, listening to music or stories	Sidelying board, pillow
Prone on elbows	Watching television, looking at books	Wedge, roll, sandbags
Kneeling	Playing at low table, gardening, washing tub, cleaning cupboards	Kneeling box, adapted prone stander, tray or table
Sitting	Eating, playing board games, watching television, clerical work, needlework, toileting, riding in car	Wheelchair, corner chair, standard chair, stool, adapted toilet seat, carseat, tray or table
Standing	Grooming at sink or mirror, washing dishes, cooking, ironing, house cleaning, sports, locomotion	Prone stander, supine stander, parapodium stander, standing box, tray or table, walkers
Miscellaneous		Small cushions, belts

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Period	Activity	Position
Homeroom	Arrival routine (inclusive)	Sitting in adaptive wheelchair
1	Work in cafeteria	Standing in supine stander
2	Science (inclusive)	Sitting in adapted wheelchair
3	Hygiene and break (grooming, changed in nurse's office, then rest)	Sitting, then supine lying with legs positioned
4	Lunch	Sitting in adapted wheelchair
5	Art (inclusive) (M–Th)	Sidelying
	Music (inclusive) (T–F)	Prone over wedge
	Community-based instruction (CBI) (W)	Sitting in adapted wheelchair
6	Language arts (inclusive) (CBI) (continued) (W)	Sitting in adapted wheelchair
7	Technology (inclusive) (M–Th)	Standing in supine stander
	Home and careers (inclusive) (T–F)	
	CBI (continued) (W)	
8	Hygiene and break (same as third period)	Sitting, then supine lying
Homeroom	Departure routine (inclusive)	Sitting in adapted wheelchair

Figure 3.18. Positioning plan for a middle school student with multiple disabilities.

tic positions, and 3) external control of a particular joint enhances more normal posture or movement patterns for the entire limb. A brace or splint may be worn on the trunk, leg, or arm. One type of brace, a plastic corset, has been used successfully in the treatment of scoliosis (Laurnen, Tupper, & Mullen, 1983), preventing further curvature of the spine but not necessarily reversing the process. For children with cerebral palsy, scoliosis, and poor head control, plastic corsets with chin and skull supports have controlled the scoliosis, increased the ease of handling and positioning the children, and simultaneously facilitated development of head control (Fulford, Cains, & Sloan, 1982). Although problems can arise when children have sensitive skin, corsets are worn in warm climates, and fit is not adjusted during growth, children with scoliosis typically wear corsets 23 hours per day with no detrimental effects (Keim, 1983).

For the leg and foot, splinting and casting have been used to reduce deformity, reduce spasticity, maintain stable joint positions during rest and standing, and ultimately reduce the need for surgery (Barnard et al., 1984; Booth, Doyle, & Montgomery, 1983; Sankey, Anderson, & Young, 1989; Sussman, 1983; Zachazewski, Eberle, & Jeffries, 1982). When children with cerebral palsy wear ankle-foot orthoses while walking, they typically increase their speed and decrease their energy consumption (Mossberg, Linton, & Friske, 1990).

Although plastic splints have almost replaced metal braces, some children with severe spasticity or excessive weight require the more traditional high-top shoe and short leg brace. There is little evidence that orthopedic shoes alone prevent flat feet or deformities associated with physical disabilities. Nevertheless, all children should enjoy the safety and cosmetic benefits of wearing shoes.

Splinting and casting have also been used to reduce deformity, reduce spasticity, and increase stabilization during functional use of the arm and hand. Although some practitioners believe that splinting masks spasticity in the hand and increases the abnormal tone in the rest of the arm, studies of electrical activity in the arm muscles do not support this contention (Mills, 1984). In fact, children with cerebral palsy have developed and maintained better bilateral hand use, grasp, and arm–hand posture after treatment with hand splints (Exner & Bonder, 1983). Range of motion and movement quality improve even more significantly when upper limb casting is continued for at least 6 months and is combined with neurodevelopmental treatment (Law et al., 1991). There are numerous types of orthokinetic, functional, and resting arm splints, however, and the attributes of each type must be understood for use to be effective (Exner & Bonder, 1983; McPherson, Kreimeyer, Aalderks, & Gallagher, 1982).

The majority of splints are made of heat-molded plastics. Therapists have started experimenting with soft splints, made of polyurethane and neoprene (Anderson, Snow, Dorey, & Kabo, 1988; Casey & Kratz, 1988). Soft splints hold promise for greater comfort, function, and decreases in deformity than rigid splints.

No matter what type of splint is used, splinting one's arms or legs can be expected to improve function *only* when muscle tone, posture, and movement in other parts of the body are normalized using therapeutic handling and positioning methods.

BODY MECHANICS

A discussion of handling and positioning would not be complete without attention to the body mechanics used by team members. The term *body mechanics* refers to the way caregivers position themselves and move when lifting and positioning children. Although adults have sustained back strain or more serious injuries when moving children with multiple disabilities, these problems usually can be avoided by using principles of body mechanics. Employing these principles also ensures greater safety and security for the children being moved.

Planning the Transfer

Prior to actually lifting the child, the adult arranges the environment, determines the extent to which the child can assist in the transfer, considers the position in which the child will be lifted, and determines whether assistance is needed to lift the child. The environment is arranged to minimize the distance the adult must carry the child. When positioning equipment can be moved easily, it is brought to the child rather than the child being carried to the equipment. Belts and other equipment needed for positioning are collected and placed nearby for quick application. The path between the child and positioning device is cleared to ensure a safe transfer.

Children are lifted and carried only when other more independent transfers and mobility cannot be facilitated. Most children with physical disabilities can roll, crawl on hands and knees, or walk within their home and classroom. Often they can be taught to climb in and out of their chairs as well. Although it is easy to lift young children, it is important that they learn to participate actively in transfers while they are small. Waiting until the child is older means the child will have to manage increased size, weight, and, possibly, contractures while working to develop the coordination needed for transfers and mobility. Even when children must be lifted and carried, their participation is enlisted. For one child, participation may be reaching for and holding the adult's shoulders. For another child, it may be staying relaxed or moving the head forward slightly when the adult reaches toward the child. The practice of soliciting the child's participation serves to maximize opportunities to teach children with multiple impairments and to further protect adults from unnecessary physical strain.

The next consideration is the position in which the child will be lifted. Children with extensor spasticity, flexor spasticity, and hypotonia (floppiness) are handled differently to normalize their tone. Therefore, they are positioned, lifted, and carried in somewhat different ways. It is helpful to physically orient the child to the next position prior to lifting. This protects the adult from having to change the child's position during the transfer, when adult and child are most precarious.

The final consideration in planning the transfer is how many adults are needed to lift the child. Although adults frequently lift small children independently, assistance should be enlisted to lift larger children. A good rule of thumb is to seek assistance when a child's weight is more than one fourth of one's own. To lift heavier children it may be necessary to have a third or even a fourth person. Although these guidelines may seem unnecessarily restrictive and, therefore, impractical, they serve to protect both children and adults from injury.

Lifting the Child

When all aspects of the lift have been planned, the adult prepares to lift the child. If the child is on the floor, the adult will squat or kneel on the floor facing the child and as close as possible. If the child is not on the floor, the adult will stand facing the child, with weight evenly distributed over both legs. If it is necessary to reach downward for the child, the adult will squat slightly by bending the knees. The trunk is not bent or twisted because these positions tend to cause back injuries. The adult then informs the child of the move to be made and requests the child's assistance. The adult takes hold of the child and brings the child close to the trunk to keep the child's weight over the adult's hips. When the child is positioned securely in the adult's arms, the adult can proceed to lift or lower the child. The essential rules for lifting and lowering are 1) position the feet to provide a stable base of support, 2) keep a slight arch in the low back, 3) tighten and hold the abdominal muscles (but continue breathing), and 4) bend and straighten the hips and knees rather than the trunk. McKenzie (1985) recommends arching the back five or six times immediately before and after lifting to relieve pressure on the disks in the spine, thereby decreasing the chance of injury. Figure 3.19 illustrates the proper body position for lifting a small child. When two people lift a child, the same principles apply. Usually one adult holds the child's arms while the other adult holds the child's legs. One adult coordinates the lift, verbally rehearses the plan for the transfer, informs the child, and signals the other adult when to lift or lower the child. Figure 3.20 illustrates one way to hold a large child for lifting. Although the adults shown are handling the child securely, their own positions are precarious. Note that their backs are rounded, making them

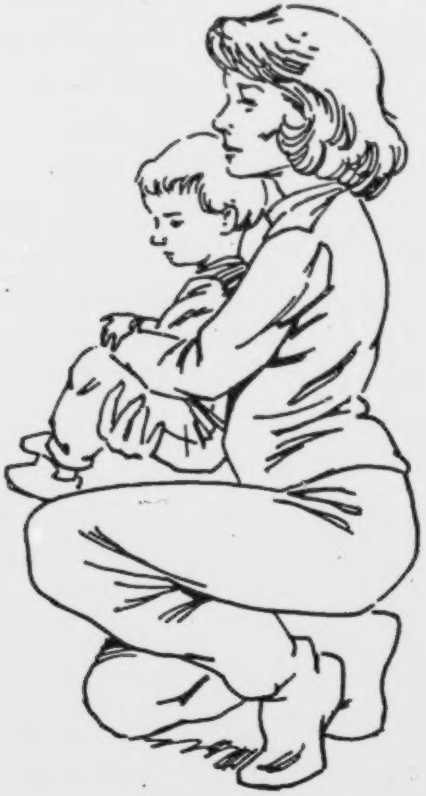

Figure 3.19. Correct handling and body mechanics for lifting a small child.

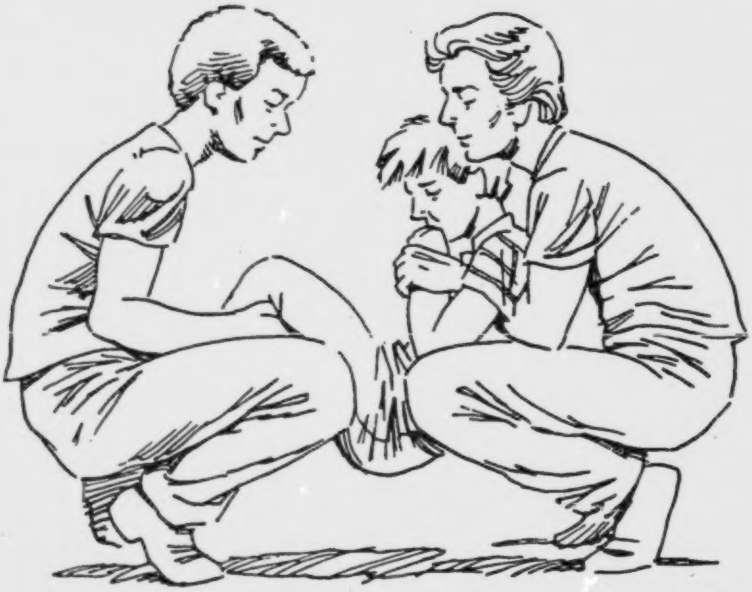

Figure 3.20. The correct handling for two people to lift a large child, but *incorrect* body mechanics.

prone to back injury, and their foot position is unstable, increasing the chance of falling off balance. These poor body mechanics also increase the probability of injury to the child. Preventing injuries and ensuring safety requires that team members consistently apply the principles listed previously.

DEVELOPING AND IMPLEMENTING HANDLING AND POSITIONING PROGRAMS IN EDUCATIONAL SETTINGS

All members of the educational team can provide important information about handling and positioning techniques that enhance the performance of students with multiple disabilities. For this reason, decisions on these matters are *team* decisions. Occupational therapists and physical therapists offer the team particular expertise in therapeutic handling and positioning, current technological developments, and fitting equipment. Therefore, an occupational or physical therapist on each student's team takes primary responsibility for developing procedures for normalization of tone, dynamic positioning, and positioning in equipment. Therapists also develop procedures to facilitate normal movement patterns and sequences, such as rolling, rising to stand, or walking. Once these procedures are developed, therapists create task analyses or checklists that become the basis for staff training. Therapists have used these tools successfully to train teachers in handling and positioning (Inge & Snell, 1985), and to monitor positioning, application of splints, and functions of various pieces of adapted equipment (Stephens & Lattimore, 1983; Venn, Morganstern, & Dykes, 1979). Checklists, pictures of proper positioning, and schedules of positioning and mobility for each activity and transition can be posted on bulletin boards and adapted equipment as reminders for educational team members. Using these simple systems to train staff and promote proper ongoing implementation of procedures, educational team members can ensure that each student derives the greatest benefit from therapeutic handling and positioning.

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Unit 3 Activity Sheets

Health and Safety

397

Activity Sheet #4

General Issues	Issues We Have Dealt With
Breathing Issues	How many current students have this issue? How many past students had this issue? How was the issue dealt with?
Injury Due to Falling	How many current students have this issue? How many past students had this issue? How was the issue dealt with?
Seizures	How many current students have this issue? How many past students had this issue? How was the issue dealt with?
Choking	How many current students have this issue? How many past students had this issue? How was the issue dealt with?
Weight Issues	How many current students have this issue? How many past students had this issue? How was the issue dealt with?

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Activity Sheet #4 (Con't)

General Issues	Issues We Have Dealt With
Dental Care and Oral Hygiene	How many current students have this issue? How many past students had this issue? How was the issue dealt with?
Toileting Issues	How many current students have this issue? How many past students had this issue? How was the issue dealt with?
Disability Specific Issues	How many current students have this issue? How many past students had this issue? How was the issue dealt with?
Medication Side Effects	How many current students have this issue? How many past students had this issue? How was the issue dealt with?

Questions / Comments:

Activity Sheet #5

Wheelchair Activity Checklist

Each person assigned to a wheelchair should try to accomplish the following tasks. As a task is completed, check a box. Depending on where your class is located, not all tasks will be possible to perform.

Tasks	**Participant Checkoff**		
	Participant # 1	2	3
Maneuver yourself around the classroom (e.g., down the isles between desks, to the teacher's desk and back to your seat, to the pencil sharpener)	☐	☐	☐
Open the classroom door and go into the hallway without assistance	☐	☐	☐
Get a drink of water without assistance	☐	☐	☐
Go into the bathroom and enter a stall without assistance (you don't have to use the facilities!)	☐	☐	☐
Wash and dry your hands at the sink without assistance	☐	☐	☐
Go outside without assistance	☐	☐	☐
With a partners assistance, go up and down a curb	☐	☐	☐
With a partners assistance, go up and down a ramp	☐	☐	☐
Use an elevator without assistance	☐	☐	☐

Unit 3 Forms

Health and Safety

- Knowledge Review
- Cooperating Teacher Practicum Summary
- Evaluation Form

Knowledge Review Unit 3: Health and Safety

Name: ______________________________

Date: ______________________________

Site: ______________________________

Instructor: ______________________________

Directions: Read each question and circle the letter corresponding to the one item that you think is the best answer.

21. The best ways to prevent the spread of infections in the classroom are :
    a) all students and staff use proper hand washing procedures
    b) clean toys and materials with disinfectants before they are shared
    c) teach students to cover their mouths when they cough
    d) everyone should wear a surgical mask in school
    e) a and d only
    f) a, b, and c only

22. Safe procedures for administering first aid in the classroom include:
    a) wash hands before providing first aid
    b) avoid breathing or speaking over the wound
    c) Avoid wearing protective gloves if possible
    d) Wash hands after providing first aid
    e) a, c and d only
    f) a, b, and d only
    g) a and b only

23. If you are bitten by a student it is important to:
    a) cover the wound to prevent the growth of harmful bacteria
    b) carefully clean the wound with soap and water and irrigation
    c) leave the wound uncovered to prevent the growth of harmful bacteria
    d) a and b only
    e) b and c only

24. When a child with a severe health care issue (e.g., asthma, allergies to milk products or peanuts, seizure disorder) comes to school, a health plan should be created for the child that details specific procedures to be followed to insure the student's good health. If a child with a health plan attends your school, which of the following are true statements:
    a) all adults that work in the school and have contact with the child should be provided information and training related to the student's health plan
    b) only the school nurse and classroom teacher need to be aware of the student's health plan
    c) children with severe health concerns shouldn't attend school

25. Which of the following are important positioning concerns for performing an everyday task:
    a) sitting comfortably with feet flat on the floor
    b) assuming a position that matches the practical and movement demands of the task (e.g., standing at the sink to do dishes, sitting at a desk to write)
    c) washing hands prior to engaging in the task
    d) setting up materials for the task on the right side of the student's body, within easy reach

26. General principles of facilitating normal postures and movement patterns include:
    a) normalizing tone
    b) encouraging w-sitting at all time
    c) "breaking up" atypical postures
    d) presenting materials to the right side of the body
    e) all of the above
    f) a and c only

27. Prolonged sitting with little change of position can result in the following problems:
    a) hip and knee flexion contractures (ligaments shorten and limbs can not be straightened)
    b) circulatory problems beneath the hip bones
    c) pressure sores can develop
    d) all of the above
    e) a and b only

28. Which of the following are true:
   a) It is OK to push a child in his wheelchair without first asking him if he is ready to go
   b) Turning off a power wheelchair to keep a student from moving is like tying an ambulatory child to her chair
   c) A manual wheelchair is a mobility device not an exercise device
   d) A student in a wheelchair should always go to the front of the line
   e) Push a wheelchair forward up ramps and backwards down steep ramps
   f) a, b and d only
   g) b, c and e only

29. When lifting or transferring a student with physical disabilities, the following are true:
   a) the student should always be asked to help with the transfer (to the degree that she is able to help) even if it takes longer
   b) always arrange the environment (e.g., position the chair near the child, have straps or harnesses where you can reach them, have an adult helper ready to assist) prior to beginning the lift or transfer
   c) it is better to lift a small child rather than asking him to bear weight during a transfer
   d) all of the above
   e) a and b only

30. When a student has a seizure, you should always do the following:
   a) Stay with the student to monitor activity
   b) Position the student on her back
   d) Place a rolled up cloth in the student's mouth
   e) Give the student a drink of water during the seizure

Cooperating Teacher Practicum Summary

Unit 3: Health and Safety

I. Brief Summary of the Unit

This unit provides the participants with knowledge about health and safety issues for students with severe disabilities.

The key concepts addressed in Unit 3 include:

- General health and safety issues pertaining to students with severe disabilities
- Basic guidelines for safely assisting a student who uses a mobility device (e.g., wheelchair)
- Basic guidelines for safely lifting, transferring and carrying students who require such assistance.

II. Practicum Requirements

1. With the help of the cooperating teacher, special educator or related services provider (e.g., OT, PT) the paraeducator will select a student with a severe disability who uses a mobility device (e.g., a wheelchair) and needs assistance with mobility, movement, positioning and handling and transferring to and from the mobility device.

The paraeducator will answer the following questions about the selected student:

a. Describe the student in terms of his or her needs for mobility, positioning and handling and transfers.

b. Does the student have health or safety issues? Describe them.

c. Does the student take medications? What are the potential side effects?

2. The paraeducator will complete the following worksheet:

Handling/Positioning Needs for My Student (check those that Apply)	**My Issues/Questions**
Handling Students with Orthopedic Disabilities Normalizing Tone High tone (spasticity or hypertonia) ☐ Low tone (hypotonia or floppiness) ☐ Facilitating Normal Postures and Movement Upright positions and normal posture ☐ Movements that maintain balance ☐ Locomotion ☐ Arm and hand movements ☐ Oral movements for eating/speech ☐	
Positioning Students with Orthopedic Disabilities Positioning in adapted chairs ☐ Alternative positions (sidelying, prone) ☐ Using braces, splints and casts ☐	
Lifting, Carrying and Transfers Supported transfers ☐ lifting and carrying ☐	

My Priority Issue or Question:

What Resources Can Help Me To Address This Issue or Question:

Access To Knowledge Or Information ☐

Hands On Training ☐

A Person To Help Me When I Need It ☐

My Team To Make A Plan To Address The Issue So I Know I Am Doing What I Am Supposed To Do ☐

Other:

Who Can Help?

My Supervisor ☐

A Special Educator ☐

Occupational or Physical Therapist ☐

The Student Parents ☐

My Classroom Teacher ☐

My Team ☐

Other:

The paraeducator will meet with the cooperating teacher, special educator or related services provider (e.g., OT, PT) to discuss the questions or concerns generated by the paraeducator in class during Activity #4 (Health and Safety Activity) and the positioning and handling worksheet on the previous pages. Each portion of each worksheet should be reviewed and revised as needed. When the worksheets are finalized, the paraeducator and the cooperating teacher should select one area (e.g., one health issue such as seizures or choking or one positioning issue such as normalizing tone or assisting with movement) to focus on for the following practicum assignment. The area selected should have relevance to the student and be one that the paraeducator had questions or concerns about.

3. The paraeducator should answer the following questions. In order to answer the questions the paraeducator may have to do additional interviews with school personnel or do periodic classroom observations.

a. What was the area you selected? Why did you select this area?

b. Does the student have a plan for addressing this area developed by the team? If so, briefly summarize the plan.

c. Observe the student during two activities in which the student is included in regular class.

1. Describe the first activity:

2. Describe how the student's plan is/would be addressed during the first activity (e.g., if it is an emergency health plan for a student who has seizures, describe how the plan would be carried out during the activity if the student had a seizure, if the plan is for positioning the student to relax his or her high tone, describe how the student is positioned during the activity to meet this need).

1. Describe the second activity:

2. Describe how the student's plan is/would be addressed during the second activity (e.g., if it is an emergency health plan for a student who has seizures, describe how the plan would be carried out during the activity if the student had a seizure, if the plan is for positioning the student to relax his or her high tone, describe how the student is positioned during the activity to meet this need).

Note to the Cooperating Teacher: It may be helpful for you to review the required readings for this unit. The readings are available in the paraeducator's Participant Manual.

Unit 3 Evaluation Form
Health and Safety

Participant name (optional): ______________________ Date: ____________________

Directions: Please check the box next to the statement that best reflects your opinion regarding the following questions.

1. How **important** were the objectives for this unit?
   - ☐ very important
   - ☐ important
   - ☐ somewhat important
   - ☐ not important

2. How **relevant** were the required readings for this unit?
   - ☐ very relevant
   - ☐ relevant
   - ☐ somewhat relevant
   - ☐ not relevant

3. How **understandable** were the required readings for this unit?
   - ☐ very understandable
   - ☐ understandable
   - ☐ somewhat understandable
   - ☐ not understandable

4. How **useful** were the activities for this unit?
   - ☐ very useful
   - ☐ useful
   - ☐ somewhat useful
   - ☐ not useful

5. How **understandable** were the activities for this unit?
   - ☐ very understandable
   - ☐ understandable
   - ☐ somewhat understandable
   - ☐ not understandable

6. How would you rate the **quality** of the materials for this unit?
   - ☐ very high quality
   - ☐ high quality
   - ☐ fair quality
   - ☐ poor quality

7. How **relevant** were the practicum requirements for this unit?
   - ☐ very relevant
   - ☐ relevant
   - ☐ somewhat relevant
   - ☐ not relevant

8. How **understandable** were the practicum requirements for this unit?
   - ☐ very understandable
   - ☐ understandable
   - ☐ somewhat understandable
   - ☐ not understandable

9. What was the most important or useful thing that you learned from this unit?

10. Please use the rest of this page to make suggestions for improving the objectives, required readings, activities, and practicum requirements for this unit.

Unit 4:

Personal Care

Timothy J. Fox

Participant's Overview

Unit 4: Personal Care

Brief Description of Unit

This unit provides an overview of basic guidelines and techniques for safely and sensitively helping students who require such help to eat, drink, and use the bathroom. The unit also covers guidelines for assisting students with dressing and hygiene needs.

Hours of Instruction (in class format)

3 hours

Unit Objectives

Key: K = Knowledge, S = Skill (Knowledge objectives are addressed through reading and class activities; skill objectives are addressed through practicum activities)

1. Paraeducators will know basic guidelines for safely providing food and drink to students who requires such support. (K)

2. Paraeducators will know basic guidelines for assisting students who require assistance with their bowel and bladder needs. (K)

3. Paraeducators will know basic guidelines for assisting students who require assistance with dressing and hygiene needs. (K)

4. Paraeducators will demonstrate their knowledge assisting students with eating/drinking, bowel and bladder needs, dressing, and hygiene needs. (S)

Preparing for and Implementing the Unit

Required Readings: (located only in the Participant's Manual)

Farlow, L. J. & Snell, M.E. (2000). Teaching basic self-care skills. In M. E. Snell & F. Brown (Eds.) *Instruction of students with severe disabilities.* (5th ed.). (pp. 245 - 290). Upper Saddle River, NJ: Prentice-Hall.

Participant Preparation for the Unit:

- Read the required readings **prior to class**
- Write two questions based on required readings for discussion in class that are relevant to you and your situation.
- Bring writing materials for note taking and activities to class.
- Review Practicum Requirements for Unit 4.
- Bring your Participant Manual to class.

Practicum Requirements

This unit has four required practicum activities which are designed to be completed at the end of the course. The paraeducator and cooperating teacher will collaborate to complete those activities. A practicum checklist of the activities to be completed and skills to be observed is found at the end of the manual. In the event that a practicum requirement is not appropriate for a paraeducator's specific situation, an alternate activity may be substituted based on negotiation with the cooperating teacher. The negotiated requirement must be approved by the course instructor.

Evaluation of Participant Learning

Participants are evaluated in three ways: (1) *knowledge review* quiz, (2) attendance and participation in class activities, and (3) completion of practicum requirements. In order to facilitate learning of required readings, participants will take the *Knowledge Review* quiz at the end of each class session and will receive immediate feedback in class. Participants are encouraged to review questions before class so they can be aware of them during class. This can improve a participant's success on the quizzes .

Suggested Supplemental Resources

Books and Articles:

Campbell, P. H. (2000). Promoting participation in natural environments by accommodating motor disabilities. In M. E. Snell & F. Brown (Eds.) *Instruction of students with severe disabilities.* (5th ed.). (pp. 245 - 290). Upper Saddle River, NJ: Prentice-Hall.

Orelove, F. P., & Sobsey, D. (1996). Mealtime skills. In F. P. Orelove & D. Sobsey, (Eds.), *Educating children with multiple disabilities: A transdisciplinary approach.* (3rd ed.) (pp. 301-338). Baltimore: Paul H. Brookes.

Orelove, F. P., & Sobsey, D. (1996). Self care skills. In F. P. Orelove & D. Sobsey (Eds.), *Educating children with multiple disabilities: A transdisciplinary approach.* (3rd ed.) (pp. 339-378). Baltimore: Paul H. Brookes.

Web Sites:

Disability Related Products and Services
http://www.makoa.org/cmpyinfo.htm#assistive

SeniorStore.com
http://www.seniorstore.com/seniorstore/household---mobility-grooming-helpers.html

Videos:

Feeding & Swallowing: The impact of proper positioning and handling on feeding. (1990). The University of Nebraska Medical Center, Meyer Rehabilitation Institute, Media Resource Center, 600 South 42nd St., Omaha, Nebraska. (402) 559-7467.

Feeding infants and young children with special needs. (1989). Distributed by Learner Managed Designs, Inc. Lawrence, Kansas, 66047. (917) 842-9088.

Unit 4 Required Readings

Personal Care

The required reading for this unit (Farlow & Snell, 2000) is a comprehensive article that covers teaching basic personal care skills with sections that address meal time skills, toileting, dressing and hygiene skills. The article utilizes a team approach to educating students with severe disabilities and emphasizes research-based approaches to instruction and support. This article is quite long and is intended to be skimmed as a resource, not an article to be read word for word.

Source: In *Instruction of students with severe disabilities*. Martha E. Snell & Fedda Brown (eds.), 2000. Upper Saddle River: Merrill. Reprinted with permission.

9

Teaching Basic Self-Care Skills

Leslie J. Farlow
Martha E. Snell

The development of the ability to care for oneself represents the beginning of independence from one's parents. The first time children complete self-care routines (e.g., using the toilet or getting dressed) "by themselves" is considered a major event in most families to be celebrated and recorded. We define this domain to include the basic and routine tasks of maintaining personal hygiene: toileting, eating, dressing, and grooming. For children and young adults with severe disabilities, the ability to manage personal care is of paramount significance, even if management relies somewhat on others. A range of obstacles (e.g., mental, physical, or behavioral disabilities, along with lowered environmental expectations or poor instruction) may slow, limit, or indefinitely postpone development of such basic adaptive skills. This chapter describes proven and socially acceptable methods for assessing and teaching these skills.

Before we begin, we'd like to introduce three students: John, a kindergarten student; Jamal, a teenager in middle school; and Alycin, a young woman well into her transition to adulthood. Within the chapter sections on toileting, mealtime, and dressing, and grooming, we share the related issues faced by these three students and their educational teams. Their instructional programs should help you apply chapter information to your own practices with students.

John

This is John's first year in an inclusive educational program, and he is assigned to a typical kindergarten classroom. He is very social and appears to like everything about school, especially music and reading. John also has a great sense of humor, he enjoys "tricking" his teachers into believing that he can't do something. John is identified as having multiple disabilities: cerebral palsy and severe mental retardation.

There are 20 students in his class. Ms. Johnson, the kindergarten teacher, has the services of a part-time teaching assistant and a consulting special education teacher, Ms. Perez. Ms. Perez typically spends about a half hour daily in the kindergarten class teaching small groups of children, working one-on-one with John, or observing to plan adaptations. John's mother participates actively on his team along with an occupational therapist (OT), a physical therapist (PT), and a speech and language pathologist (SLP), all of whom provide services to him several times a week in the context of kindergarten activities.

John uses a wheelchair to travel distances of more than a few feet, but he can walk 3 feet, using two canes, and up to 10 feet when an adult holds him from behind and facilitates hip rotation. In the self-care domain, John is not toilet trained and still wears diapers. He eats finger foods and uses a spoon, but he is messy and does not appear to chew his food thoroughly. John participates in most grooming skills with verbal and physical assistance.

Jamal

Jamal is an eighth grader with autism. At age 13, he is fairly social with staff and peers and well-liked. Since entering middle school, Jamal has been involved in a Lunch Bunch Club, which means he interacts daily with many other eighth graders, even though he spends about half of his school time learning apart from them (e.g., in the special education room, at the high school where he will be next year, and in many community locations). Jamal uses signing, conventional gestures, and a pocket communication book of symbols and printed words to communicate. He is learning to indicate his dislike of activities in more appropriate ways than shaking his head and humming loudly, jumping up and down, tearing around the room, and yelling, which has been his practice for many years. Now he is learning to communicate his dissatisfaction and make a choice about a change. Jamal likes being around peers but dislikes excessive noise and often reacts by covering his ears.

Unlike many of his peers, Jamal is somewhat oblivious to his appearance, though, at his mother's insistence, he always looks neat and fashionable. His grooming goals include generalization of independent toothbrushing, initiation of hand washing before handling food, and checking his face in the mirror after eating and brushing his teeth. In the dressing area, Jamal is aiming for independence in the school bathroom (i.e., unfastening and fastening his pants, exiting the bathroom with clothes properly arranged and underpants not showing), handling all fasteners on clothing and jackets, and tying his shoes. At lunch time, Jamal's focus is on attaining fluency in cleaning his own place after lunch, setting his own place in the classroom, and asking for what he needs spontaneously.

Alycin

Alycin, who is 17, will complete her high school program next year and start a post-high program, located in the community, when she is 18. Because of her extensive cerebral palsy, she uses a wheelchair and a computerized communication device with voice output and regularly uses other pieces of adaptive equipment, such as toileting and shower chairs, adapted desk and chair arrangement, and wedges for positioning. Alycin's vision is limited, which means her parents, teachers, and peers rely a lot on telling her where things are and "talking her through" what is happening around her. For her transition years, Alycin and her team have identified skill targets that emphasize less dependence on others and have problem-solved common challenges to her self-care routines. Her self-care skills include indicating when she needs to use the bathroom, partial participation in toileting and many grooming tasks, and active participation in eating, including the use of a mechanized self-feeder for some meals at home and school.

A Rationale for Attaining Proficiency in Self-Care Routines

It is our position that attaining proficiency in self-care must continue to be a priority for instruction for most students with severe disabilities. The most basic and functional skills of human beings are those involved in daily self-care routines. These routines are performed every day, they have strong, lifelong influences upon health, social acceptability, and positive self-image. If not performed by the student, these routines must be completed by someone else or medically managed if the person is to remain healthy and socially acceptable.

While today's prevalence of early intervention should have a positive effect on our students' attainment of these basic skills, there is no guarantee that self-care routines will be taught or will be mastered by elementary-school age. The accommodations allowed and available during the school years often disappear after age 21; young adults who have not achieved the highest degree of independence possible in their daily hygiene may be excluded from many community opportunities as a result. The clock is always ticking for students with severe disabilities.

Additionally, the self-care curricular domain continues to be a priority for parents and contributes greatly to quality of life and to self-determination for individuals with severe disabilities. Parents of students with severe disabilities are often the most vocal supporters of targeting and teaching self-care skills (Hamre-Nietupski, 1993). For instance, when these parents responded to a questionnaire about school curriculum, they agreed that about half of every school day should be devoted to functional skills instruction, which included learning to care for oneself; community skills, such as shopping and street crossing; and work and leisure skills. Parents recommended that the remaining portion of the day's instruction be divided between academics and developing friendships and social relationships with nondisabled peers.

The attainment of proficiency in basic self-care skills (even if proficiency involves some necessary accommodation) makes it possible for our students to meet their own personal needs while it contributes meaningfully to the development of self-determination and to one's quality of life. There is increasing consensus that the four core dimensions of quality of life are: (a) personal well-being, (b) emotional well-being, (c) personal development, and (d) self-determination (Hatton, 1998; Hughes, Hwang, Kim, Eisenman, & Killian, 1995; Schalock, 1996). Clearly, toileting, eating, and grooming are critical to the first dimension: personal well-being and health. Independent performance of self-care activities are considered milestones in child development. When these milestones are accomplished, they are "celebrated" in families, whether the child is typical or has a disability. This is strong evidence that independent performance of self-care tasks contributes to emotional well-being and personal development.

If the components of self-determination are examined, it becomes clear how aptitude to perform self-care tasks is closely related to this fourth dimension of quality of life. Initiation, persistence, choice making, self-regulation, and self-efficacy are components of self-determination (Brown & Cohen, 1996). Think about it:

- People have many natural opportunities to initiate and persist while completing necessary self-care routines.
- Eating, grooming, and dressing require many choices.
- Independent performance of self-care tasks is a milestone in the development of self-regulation and self-efficacy for typically developing young children.
- Progress in self-care skills provides a sense of self-control and accomplishment for students with disabilities.

Finally, starting in the adolescent years, appropriate dressing and grooming skills are necessary for acceptance in a peer group and also may improve students' access to integrated community environments. With instruction, students with disabilities should be expected to make progress in self-care skills and to demonstrate at least some level of independence from parents and other support providers. This can lead to improved quality of life, increased ability for self-determination, and increased opportunities to develop interactions with peer groups that may lead to positive social relationships.

Problems with Current Research

Even though self-care skills contribute to health, reduce dependence, and add to quality of life, the research basis for instruction of these skills is surprisingly limited. Most of the self-care research since the 1960s exhibits one or more difficulties:

1. It was conducted in segregated school or living settings.
2. It included aversive procedures in the intervention.
3. It is dated.

Today, segregated placements and aversive procedures are not acceptable practices for students with disabilities because (a) we know the power that ordinary peers and life experiences can have for students with disabilities (Meyer, Park, Grenot-Scheyer, Schwartz, & Harry, 1998), and (b) we have seen that more problems than solutions result from the use of aversive methods (Horner & Carr, 1997).

Despite a need for more studies using positive strategies in inclusive educational settings, research in the functional skill domains, including self-care, appears to be declining (Nietupski, Hamre-Nietupski, Curtain, & Shrikanth, 1997). Furthermore, with a reduction in self-care research in general, the areas of dressing and grooming instruction have been significantly less studied than have toileting and eating instruction (Snell, 1997).

General Principles for Developing Self-Care Instruction

Our general principles for developing self-care instruction are summarized in Table 9–1. Teachers, in collaboration with family members, related service personnel, general educators, and the student, choose which skills to address but pay close attention to social, age, and cultural characteristics of teaching procedures and the perspective of peers. Partial (versus full, or nonadapted) participation of skills is judiciously used. Next, team members conduct meaningful assessment, including an inventory of the

TABLE 9–1
Principles for Developing and Implementing Self-Care Teaching Programs

- **Collaborate with team members.** Work collaboratively with the entire team (student, family members, educators, related service personnel, paraprofessionals) to select skills for instruction, set instructional targets, develop instructional programs, and monitor performance.
- **Use procedures that are socially valid, age- and culture appropriate.** Skills selected for instruction and instructional procedures should: (a) be acceptable to those close to the student, the student's peers, and the larger community; (b) be performed by others of the same age in similar ways; and (c) reflect the heritage, religion, and beliefs of the family and student.
- **Involve peers.** Because peers are good judges of "what is appropriate" and "what is socially acceptable," involving them can help teams choose targets, screen teaching approaches (e.g., methods, locations), and decide if the outcomes are acceptable.
- **Use partial participation carefully.** Modify tasks to empower students and enhance learning when mastery of unmodified routines is an unrealistic goal for current instruction. Continuously reevaluate modifications to ensure they are effective, nonstigmatizing, and necessary.
- **Conduct meaningful assessment and use the results.** Meaningful assessment to select skills for instruction should result in knowledge of: (a) what the student is able to do; (b) what skills the student does not perform or does not perform completely; (c) whether unlearned skills are a priority in current or future environments; (d) the way the student participates in performance of tasks and routines; (e) whether skills are performed fluently; and (f) whether skills are performed across settings. Meaningful assessment during instruction provides information about student progress and the need for changes in instruction.
- **Select appropriate settings and schedules for instruction.** Schedule instruction in settings and at times where the skills are most functional. While creating additional opportunities for instruction or providing instruction in isolated settings may sometimes be justified, such decisions must be implemented with caution.
- **Select uncomplicated and effective instructional methods.** Instructional strategies should be easy to use, practical, and result in student progress. Instructional strategies should be matched to the student's stage of learning, specific learning characteristics, and the instructional environment.
- **Consider related skills for instruction.** When teaching core skills within self-care routines, instruction should address related skills, including social and communication skills, initiation, problem solving, and monitoring quality and tempo.

environment to determine which self-care routines and specific skills are the most important for the student to master and what the best schedule and settings are for instruction. Uncomplicated and effective instructional methods should be selected on the basis of the student's specific learning characteristics, the stage of learning, and the instructional environment. Finally, the team should identify related skills (e.g., social, communicative) that should be included in instruction. These eight principles are repeatedly applied by teams as a decision cycle to select skills, evaluate student progress, and adjust teaching strategies.

Collaborate with Team Members

The collaborative team is an ongoing process in which many decisions are made about what to teach, how to teach, and how to improve teaching (for more detail, see chapter 4 and Snell & Janney, 2000). If teams are to be student-centered, the *student* must be a team member. When students are present at their own Individualized Educational Plan (IEP) meetings and team members seek to understand their feelings, ideas, and choices about self-care skills, team decisions are more likely to reflect the student's wishes. We know of several teams who routinely put the student's picture on the meeting table when he or she (or a family member) cannot be present. Likewise, *family members* can provide the team with perspectives that no professional members have, especially in the self-care domain. Involvement of the family in instructional plans can facilitate generalization of the skills from schools or community-based sites to the home environment. If teachers are limited to the traditional school day and settings for instruction and observation, then family members or other support providers must facilitate students' use of the self-care routines where they are especially needed—in the home and the community.

In addition to the student and family, other core team members include teachers. The student's *special education teacher* facilitates the planning of meeting times and location, the agenda, and implementation of actions the team recommends. *General education teachers* must be involved as core members, too, because (a) their classroom activities and teaching schedule are the context for assessment and instruction, and (b) classmates may be included, even if only as informal models for self-care.

When self-care skills are a priority, related services staff make essential contributions for many students. *Occupational therapists* have expertise in the activities of daily living, including self-care skills, and the fine motor development needed for many self-care tasks. For example, Reese and Snell (1991) consulted with an occupational therapist to determine the most appropriate steps for putting on and removing coats and jackets. *Physical therapists* are sources of knowledge on adaptive equipment and overall positioning considerations, which influence skill performance. *Speech and language therapists* have expertise in oral musculature that may be useful in the evaluation of eating and oral hygiene activities. For example, Snell, Lewis, and Houghton (1989) consulted with a speech therapist to determine the most appropriate steps for brushing teeth. *School nurses* may directly assess nutrition, bowel and bladder characteristics, and other health concerns (e.g., seizure disorders, urinary tract infections, vision and hearing concerns) or consult with the student's physician. Sometimes additional school staff are included because they fill important team roles: *paraprofessional staff, adaptive physical educators,* and *vision specialists.*

> *John's teacher and occupational therapist visited his home to meet with John's parents to complete assessments and observations in the self-care domain.* Ms. Perez *asked his preschool team members, including his last teacher and mother, about what had been targeted, taught, and successful for John in self-care areas.* Ms. Perez *also consulted with John's current physical and occupational therapist and his speech therapist. They observed John as he performed self-care tasks. The speech and occupational therapists worked together in the initial development of an eating program and shared their ideas with the team. Since many of John's self-care skills ultimately will be completed in the home environment,* Ms. Perez, Ms. Johnson, *and the therapists worked closely with John's parents to plan his self-care program.*

Use Socially Valid Procedures that Are Appropriate for Age and Culture

Throughout the assessment, instruction, and evaluation process, the team should consider family or support-provider priorities for instruction, peer standards (the skills that the students' peers perform and the ways they perform them), and community norms (the acceptability of the task and the way it is performed). These considerations are often referred to as *social*

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validity criteria. When targeting skills for instruction, the student teacher should heed family or support-providers' priorities for instruction, the skills that the students' peers perform, the ways peers perform skills, and the acceptability of the task and its performance as viewed by the community. The acceptability of teaching strategies cannot be ignored. Social validity criteria apply to decisions regarding how skills are performed, the materials used for instruction, the prompting procedures, the consequence procedures, and the overall intrusiveness of the procedures. Teams should compare their teaching plans with methods used to teach students without disabilities in similar settings and judge the appropriateness of the techniques. Family team members should also evaluate the fitness of the technique for their son or daughter. Because of the personal and private nature of many self-care skills, it is even more critical that team members evaluate their comfort level with teaching plans. In one study addressing how menstrual care might be taught, nondisabled women in the community were surveyed to determine if instruction should be conducted using a doll rather than on the students (Epps, Stern, & Horner, 1990). Women in the community indicated a preference for instruction using a doll, citing the intrusiveness of instruction on the student and the potential for some students to negatively react to such an approach.

Self-care routines targeted for instruction, as well as the procedures for instruction and monitoring progress, should be age- and culture-appropriate. Skills are *chronologically age-appropriate* for a student when they are performed by others of the same age. The specific ways skills are accomplished as well as the materials and setting used can be influenced by a student's age. A student's chronological age has great influence on whether or not a skill becomes a priority. For example, completely independent toileting may not be an appropriate goal for a preschool or primary school–aged child, since typical children in this age group receive assistance from their parents or siblings in public toilets, with soap and towel dispensers, and even with getting on and off the toilet and manipulating doors, because of the height, size, and novelty of the equipment. When students in elementary school, or older students, are still dependent on teachers and support providers for toileting, eating, and grooming assistance, however, their differences may isolate them from their peers. Age-appropriateness may also affect the selection of criteria. For example, Young, West, Howard, and Whitney (1986) recorded the dressing rate of skilled peers with and without disabilities to calculate an average of these rates, which became the goal rate for instruction.

> *Like some of his peers Jamal wears button-fly designer jeans, but the buttons are very difficult for him to fasten and unfasten. Many peers also wear snap-and-zip jeans, which would be easier for him to handle. At 17, Alycin has her legs and armpits shaved by her mom; in the summer, because Alycin likes to swim, she also has a bikini shave! Alycin likes the process and helps pick out the shaving cream.*

Culturally-appropriate criteria, or practices that family members value that relate to heritage, religious practices, and beliefs, may influence the performance of some self-care skills, particularly diet. Not enough attention has been given to the impact of family values and culture on teaching content. Listening to families as valued team members gives others on the team opportunities to learn about cultural preferences the family may have.

Involve Peers

The ways in which peers perform tasks are important in selecting skills for instruction and determining how they will be performed. Research shows that the attitudes of typical peers toward students with disabilities are better when students who have disabilities are viewed by their peers as being similar to them (Bak & Siperstein, 1987). For example, in the grooming curriculum, this can mean several things: (a) looking similar to their peers in dress, hairstyle, and grooming habits and (b) performing grooming skills at the same time and place. Especially in dressing and grooming, peers may be better models than professional teachers.

> *Now that Alycin spends more time in community-based instruction, she and her team feel she must "dress the part." This means no skirts, because they ride up in the wheelchair, and no shorts, because they are not suitable for a job; instead, she wears long, lightweight pants, which she and several high school friends picked out.*

Nondisabled peers can be involved as task companions, partners, models, or assistants with students who have severe disabilities, though caution must be applied so that one-way helping is not the only outcome (see partial participation in this chapter and chapter 10). Mike's peers in Figure 9–1 assist him

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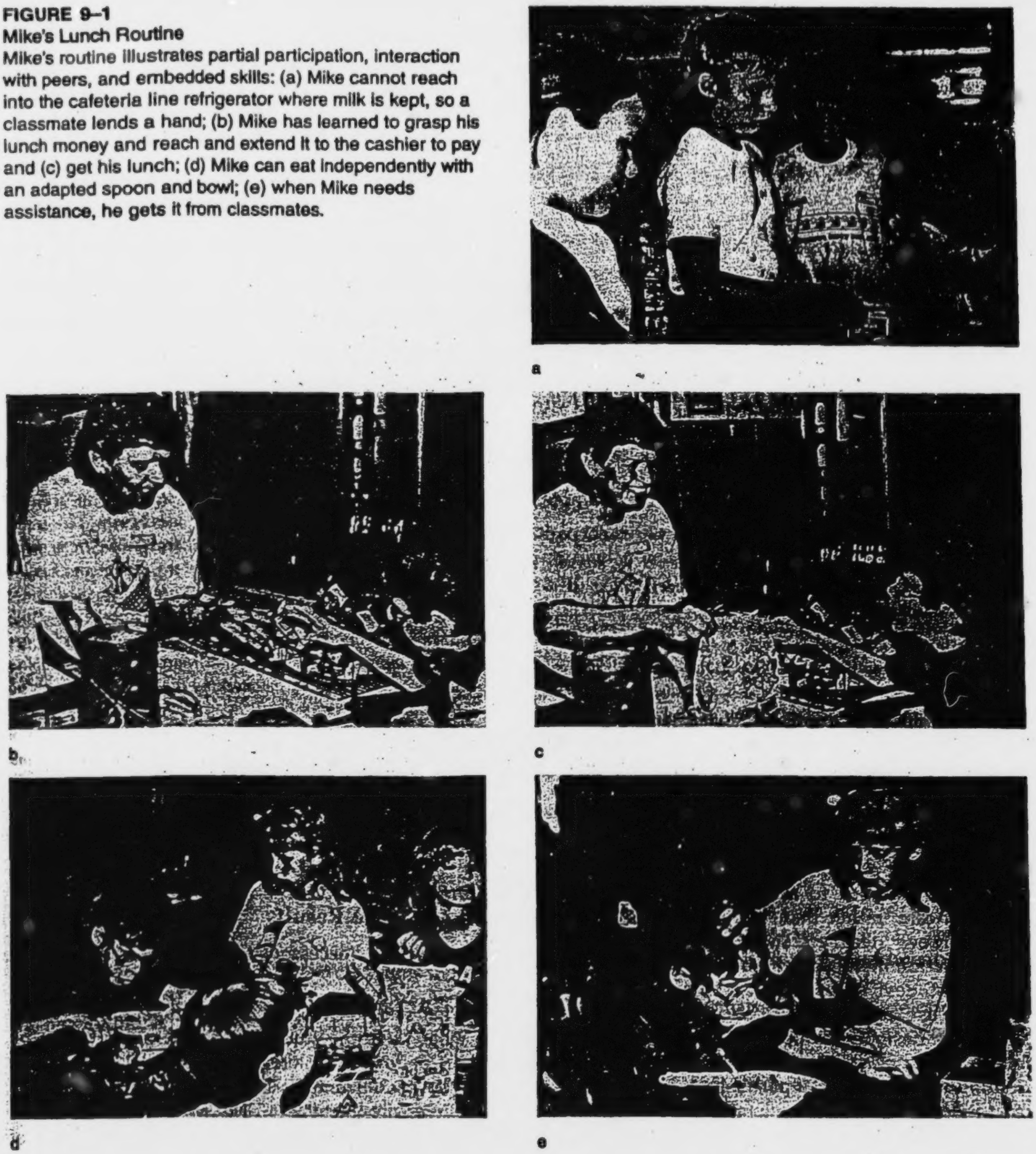
FIGURE 9–1
Mike's Lunch Routine
Mike's routine illustrates partial participation, interaction with peers, and embedded skills: (a) Mike cannot reach into the cafeteria line refrigerator where milk is kept, so a classmate lends a hand; (b) Mike has learned to grasp his lunch money and reach and extend it to the cashier to pay and (c) get his lunch; (d) Mike can eat independently with an adapted spoon and bowl; (e) when Mike needs assistance, he gets it from classmates.



by handing him a milk carton and providing assistance with his lunch when he needs it. Those who have used this approach often comment on how students' motivation for learning is high when peers replace adults as learning partners.

> *John likes to trick adults by pretending that he cannot do things, but he is very responsive to peer praise and being like his peers.* Ms. Perez *and* Ms. Johnson *acknowledge John's accomplishments to his class and encourage students to praise John when he is successful in a task "all by himself."*

Staub, Spaulding, Peck, Gallucci, and Schwartz (1996) taught adolescents in junior high to be student aides, which involved ability awareness training, adult modeling, and an accountability system for participation in the student aide program, and scheduled student aides to lend a range of support to students with disabilities in general education classes. Support was given in social, academic, communication, and daily living skills and for appropriate behavior and resulted in many positive outcomes. Here are a few examples in the self-care area:

> *Another change is that he can tie his shoes by himself. I taught him how to do that. (student aide)* (Staub *et al.*, 1996, *p.* 201).
>
> *Kelly initially relied on her aide to help her with the locker routine. But now she's doing a great job at it and she's even helping another student in the class with disabilities with her locker routine. (physical education teacher)* (Staub *et al.*, 1996, *p.* 201).

Use Partial Participation Carefully

Partial participation (Baumgart et al., 1982) and adaptations can allow students to participate to some degree in any activity, to attain dignity, and to profit from self-care, rather than remaining totally dependent. However, teachers should not eliminate skills for instruction merely on the basis of perceived difficulty or student characteristics. When the team decides to use partial participation, any adaptations should be designed to be age-appropriate, nonstigmatizing, and practical (Ferguson & Baumgart, 1991). Continuous evaluation of partial participation is critical to determine when assistance can be faded or eliminated, to ensure that modifications result in satisfactory outcomes, and to empower students rather than humiliate them. Modifications for partial participation include:

1. Modified or adapted materials (e.g., toothbrushes, combs, forks, and cups that are designed for easier gripping; velcro fasteners in place of buttons, hooks, or snaps)
2. Adaptive switches or automated appliances (e.g., hair dryers activated by a pressure switch, battery-powered toothbrushes that provide scrubbing action automatically)
3. Changed sequences within an activity (e.g., allowing a student to put her bathing suit on under her clothes before going to a public pool; sitting on the toilet for balance while scooting underwear down)
4. Personal assistance (e.g., fastening pants for a child in the bathroom, guiding a student's hand to scoop food).

> *At home, Myra (Alycin's mom) and Alycin have a long history of using partial participation strategies in self-care tasks; they share the successful ideas with the team. Additional improvements and new ideas evolve from there. For example, Alycin can grasp a wet wash cloth and has the wiping motion, but because of her cerebral palsy, she does not apply enough pressure to get her mouth or arms clean. Still, when showering, Myra gives Alycin a soap mitt and lets her spread the soap on her body, while Myra does any scrubbing that is needed. During the morning routine, Alycin helps by putting her arms up in air as her mom applies deodorant. When it is time to brush teeth, Myra asks Alycin which of several flavors she wants, gives her a "filled" brush, and Alycin does the lateral motion up front, then Myra gets the back teeth as Alycin holds her mouth open. Myra adds: "I do the floss, she holds her mouth open, and the job is done!"*

Conduct Meaningful Assessment and Use the Results

Assessment is necessary, for many reasons, to determine:

- What skills the student is able to perform;
- What skills the student does not perform or does not perform completely;
- Whether unlearned skills are a priority now or in future environments;
- How the student participates in performance of tasks or routines;

- Whether the skills are performed fluently;
- Whether skills are performed across settings;
- Whether the student is making progress in instruction;
- Whether or not changes are needed in instruction.

Typically, self-care assessments include the use of interviews and checklists with family members, such as the eating subtest of the Checklist of Adaptive Living Skills (Morreau & Bruininks, 1991) shown in Figure 9–2; environmental assessments; and direct observation (see chapters 3 and 5 for more information on assessment). As noted earlier in this chapter, the assessment process should encompass collaboration with the educational team; social validity; age- and culture-appropriateness; and peer standards.

Informal Assessment

Informal assessments include environmental assessments and interviews. Information may be collected from team members through interview or self-report using a checklist of self-care skills. Interviews may begin with general questions, such as: "Describe Jamal's typical morning routine getting ready for school." Then, as you begin to target priority skills, you may focus on questions about the typical components of self-care routines (Brown, Evans, Weed, & Owen, 1987), such as:

- Can Jamal *brush his teeth*? What kinds of assistance does he need (e.g., complete, more than half, less than half, little, or none)?
- In the *toothbrushing* routine, does Jamal initiate the task, problem-solve, monitor quality, monitor speed, or terminate the task?
- In the *toothbrushing* routine, does Jamal make choices, use communication or social skills, or have interfering behavior?
- Is the *toothbrushing* routine a priority? Are there any specific concerns?

Sometimes individuals or agencies outside the team are also asked about what self-care skills are required in settings that the student uses or may use in the near future. For example:

> *As John's teachers were preparing for him to enter an inclusive kindergarten, they learned from visiting the kindergarten he would attend that children went to the toilet in groups. They also knew that John could probably learn to respond to peer models for washing hands after toileting. Thus, a preschool objective was to teach John to attend to several peer models who were students in a Head Start classroom near his room.*
>
> *Alycin's team called six potential post-school adult agencies to see what kinds of self-care skills were required to participate. Unfortunately, only two provided assistance in toileting transfers and at mealtime; all others required independence or attendant services. This news made the team place more emphasis on improving Alycin's ease with assisted transfers and fluency in feeding herself (finger foods or the self-feeder).*

The settings students use influence the selection of skills for instruction. For example, if a student eats most meals in the school cafeteria, then the related skills of cafeteria use may be a priority. As a student becomes older and receives more instruction in the community, then the associated skills of restaurant use and eating at work are appropriate teaching targets. Family-style dining may become a priority if it is preferred by the family or if the student's future placement indicates that it will be needed.

Direct Observation

Some self-care behaviors such as taking a bite, taking a drink or eliminating in the toilet, can be separated from the chain as isolated, discrete skills, but these behaviors usually are taught as part of a routine. For example, the target skill of bladder elimination may be taught in the context of the toileting routine, which is task-analyzed into its component behaviors: walking to the toilet, unfastening clothing, pulling down pants, positioning self on toilet, pulling up pants and underwear, fastening clothing, flushing, washing and drying hands, and returning to previous activity. For some students, asking permission to go to the bathroom or requesting needed assistance will be taught concurrently or added after progress is made on these core steps.

Published task analyses such as those by Baker and Brightman (1997) can be used to guide assessment observations and instruction, but teachers often conclude that it is more practical to develop their own task analyses. Task analyses may be developed by taking several steps: performing the task, observing capable peers perform the task, observing focus students performing the task, and getting team input. Task analyses should reflect the ways others around the student do the task (family members or peers at school) and materials used at home or school or other

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FIGURE 9–2
Eating Subtest of the Checklist of Adaptive Living Skills (CALS)

1.2 EATING

Assessment				Skills
DATE	DATE	DATE		
☐	☐	☐	1.2.1	Sucks from a nipple.
☐	☐	☐	1.2.2	Holds and drinks from a baby bottle.
☐	☐	☐	1.2.3	Swallows a spoonful of soft food.
☐	☐	☐	1.2.4	Sits in a chair with support, such as a belt or tray.
☐	☐	☐	1.2.5	Holds head up while eating.
☐	☐	☐	1.2.6	Picks up and eats crisp food, such as crackers or cereal, with the fingers.
☐	☐	☐	1.2.7	Swallows liquids from a cup held by someone else.
☐	☐	☐	1.2.8	Scoops soft food, such as cooked cereal, with a spoon.
☐	☐	☐	1.2.9	Scoops small pieces of solid food, such as stew, with a spoon.
☐	☐	☐	1.2.10	Drinks from a cup with a handle.
☐	☐	☐	1.2.11	Chews and swallows a bite of solid food that is not soft, such as a piece of meat.
☐	☐	☐	1.2.12	Takes food into mouth with the tongue (for example, licks ice cream from a cone).
☐	☐	☐	1.2.13	Drinks from a glass.
☐	☐	☐	1.2.14	Picks up and eats hand-held foods, such as a sandwich.
☐	☐	☐	1.2.15	Scoops soft food, such as mashed potatoes, with a fork.
☐	☐	☐	1.2.16	Drinks a beverage directly from a drinking fountain.
☐	☐	☐	1.2.17	Drinks water from a drinking fountain.
☐	☐	☐	1.2.18	Sucks liquid through a straw.
☐	☐	☐	1.2.19	Takes paper off of wrapped foods.
☐	☐	☐	1.2.20	Fills a glass with water from a faucet.
☐	☐	☐	1.2.21	Drinks a beverage directly from a bottle.
☐	☐	☐	1.2.22	Tests cooked food or liquids that are hot before eating or drinking them.
☐	☐	☐	1.2.23	Pierces a piece of solid food, such as meat, with a fork.
☐	☐	☐	1.2.24	Chews food with the mouth closed.
☐	☐	☐	1.2.25	Swallows food before taking another bite.
☐	☐	☐	1.2.26	Tastes food he or she has not tried before.
☐	☐	☐	1.2.27	Sucks on a hard piece of candy.
☐	☐	☐	1.2.28	Scoops pieces of small solid food, such as peas, with a fork.
☐	☐	☐	1.2.29	Wipes own hands and face with a napkin.
☐	☐	☐	1.2.30	Cuts soft food, such as cooked carrots, with the side of a fork.
☐	☐	☐	1.2.31	Pours liquid into a glass from a pitcher or bottle.
☐	☐	☐	1.2.32	Chooses the fork, knife, or spoon when they are needed to eat different foods.
☐	☐	☐	1.2.33	Asks for food to be passed.
☐	☐	☐	1.2.34	Spreads a sandwich spread, such as peanut butter, on bread with a knife.
☐	☐	☐	1.2.35	Puts a small amount of seasoning, such as salt or pepper, on food.
☐	☐	☐	1.2.36	Opens a carton of liquid, such as milk.
☐	☐	☐	1.2.37	Places a serving of food from a serving bowl onto his or her plate.
☐	☐	☐	1.2.38	Opens a tab-top can, such as a soda pop can.
☐	☐	☐	1.2.39	Takes the cap off a bottle.
☐	☐	☐	1.2.40	Sets the spoon, fork, and knife on the plate when they are not being used.
☐	☐	☐	1.2.41	Slices soft, solid food, such as a baked potato, into bite-sized pieces with a knife.
☐	☐	☐	1.2.42	Peels the skin or shell from food, such as an orange or an egg, with fingers.
☐	☐	☐	1.2.43	Cuts meat into bite-sized pieces with a fork and a knife.

Note: From *Checklist of Adaptive Living Skills (CALS)* (p. 7) by L. E. Morreau and R. H. Bruininks, 1991, Allen, TX: Developmental Learning Materials. Copyright 1991 by DLM. Reprinted by permission.

relevant environments. For many students and self-care targets, consultation with family members, the occupational and physical therapist, or the speech and language therapist greatly improves the task analysis.

Observing the focus student is particularly important when the student has had some experience with the skill. For example, the first author learned from a student with motor involvement that soaping a washcloth for face washing can be accomplished by wadding the washcloth into a ball and then rubbing the cloth across the soap in a stable soap dish. Unfortunately, this lesson was learned only after struggling to teach the student to place the washcloth over an extended palm, to pick up the soap in the other hand, and then to rub the soap on the cloth. Had the student been observed first, the task analysis would have been written to reflect this adapted method.

Select Appropriate Settings and Schedules for Instruction

Once priority skills are selected, teams have several issues to address that concern scheduling and learning setting:

- Where to teach the skill (natural location or elsewhere);
- Whether privacy is appropriate (alongside peers or isolated training);
- When to teach the skill (natural times or nonnatural times, or both);
- How often to teach the skill (natural frequency or increased intensity).

Instruction of activities in the places and at times when the activity is functional is a characteristic of quality programs for students with severe disabilities, because this practice uses normalized routines, allows peer modeling, and promotes skill generalization (Losardo & Bricker, 1994; Sewell, Collins, Hemmeter, & Schuster, 1998). Unfortunately, much of the self-care research has not addressed these issues in the school environment because, beyond preschool, many self-care skills are not used during the school day or are used in private.

Often activity-based self-care instruction, which occurs during natural times for dressing, toileting, and eating, is sufficient for instruction. However, if students are not making progress in a carefully implemented program, then the team needs to consider

An Example of Meaningful Self-Care Assessment

Ms. Perez, John's special education teacher, and Mr. Lee, the occupational therapist, visited John's family at home about a month before his IEP meeting was scheduled. Ms. Perez chose to use the Vineland Scale of Adaptive Behavior to interview John's mother on his adaptive behaviors, in addition to an informal interview and environmental assessment. She took advantage of being in John's home to assess the environments where John completed self-care tasks: his bedroom, the bathroom, the kitchen, and the dining room. Ms. Perez discussed the family's routines in the morning getting ready for school, in the evening getting ready for bed, and mealtimes at home and in the community. What follows are the assessment findings:

> *John's scores range from 1 year to 3 years on the Vineland. While not toilet trained and still using diapers, his physician says John is physiologically capable of toileting independence. John does eat finger foods without assistance and uses a spoon, but he is messy and does not appear to chew his food thoroughly. John participates in most grooming skills but still requires some verbal and physical assistance. He can dress independently in clothing with no fasteners, such as elastic-waist pants and T-shirts, but he needs full physical assistance with zippers, buttons, and snaps.*

Based on these findings, the team decided a number of things: (a) John's priorities for self-care instruction are toileting independently, chewing food, using a fork, and washing his hands and face; (b) John will receive instruction in mealtime behaviors and fastening clothing only as natural opportunities present themselves; (c) task analyses will be used to guide teaching and to measure John's progress; and (d) the members of the team will keep a time chart to record toileting successes and accidents and a frequency count of correct and incorrect bites for chewing.

increasing instructional intensity or the number of teaching trials. For example, if a student is not successful in learning to toilet with an improved traditional method (explained later in this chapter), teachers may increase fluids to increase opportunities for learning. Because intensive instruction is intrusive to the typical daily routine, it should be considered only when skills are a high priority and after more normalized techniques have been implemented unsuccessfully. Sometimes, instructional intensity can be increased without major schedule adjustments or concern. For example:

> *John can work on his eating skills extra times each day because the class has two snacks and lunch. The speech therapist is scheduled for the morning snack, the class aide for lunchtime, and variable staff for the afternoon snack.*

Some students with special dietary needs or who are at risk nutritionally require an extra meal or snack during school hours, providing potential instructional opportunities.

The decision to teach in isolation away from peers must be made cautiously. Segregation eliminates social interaction, reduces the probability of skill generalization, and may mean less efficient use of staff time. Certainly, the ultimate goal of instruction is to enable students to use self-care skills appropriately, with as much independence as possible alongside others at home, at friends' homes, at school, and in the community. Given this goal and the fact that students with severe disabilities have difficulty generalizing learned skills from one setting to another, there is clear support for instruction in natural settings. Even when students require specialized equipment to eat or when staff must use therapeutic methods, they can participate with their peers in the lunchroom environment, as illustrated in Figure 9–1 with fourth-grader Mike. Notice that Mike actively participates in the whole routine, even though he has not reached independence on all steps; his team worked out simple adaptations on some steps with cafeteria staff (e.g., taking his milk carton from another student rather than reaching into a cooler), which led to his independence.

Typical reasons teachers cite to justify *initial mealtime isolation* of students with severe movement involvement are: (a) poor motor control, which results in excessive errors even when the student is given a high level of physical support, and (b) increased muscle tone, which may result from noise and distractions, interfere with controlled movement, increase primitive reflexes, and reduce the level of performance. Some students may not want to eat in front of peers; and, while this preference needs to be considered, it may have life long implications for being isolated at mealtime. In contrast, isolation for instruction in many personal care tasks (e.g., toileting and some dressing and grooming tasks that peers do not perform at school), particularly beyond early childhood, is justifiable. Teams may follow two guidelines to determine when to choose isolated self-care instruction over activity-based instruction:

- If the self-care activity is one that other class members perform openly at school (e.g., hand washing, using a utensil at lunch, taking shoes and outer garments off and putting them on for recess), then activity-based, nonisolated teaching may be appropriate. For example, most students do not brush their teeth at school, so if toothbrushing is a priority and school time is devoted to its teaching, then isolated teaching may be best.
- If privacy is natural and appropriate to the task (e.g., toileting, menstrual hygiene, changing clothes before and after swimming), then any instruction should take place in private, although during expected times so that task completion leads to natural outcomes (e.g., swimming follows changing into a swimsuit).

Teams need to carefully explore the reasons for and against increasing opportunities for instruction or for isolated instruction, while giving priority to the viewpoints of family members and the student.

Select Uncomplicated and Effective Instructional Methods

Teachers often recommend that common sense be a primary guideline for designing teaching programs: Programs must be easy to use and practical, but they must also work! This same message has been designated as the *principle of parsimony* by Etzel and LeBlanc (1979), which suggests that when several approaches work, select the simplest. We have found that the most "doable" program that works with an individual student is team-developed—it reflects input from all team members—and is built on consideration of assessment results, involves peers when appropriate, respects student preferences, and is sensitive to age- and culture-appropriateness.

Stages of Learning

The stages of learning (e.g., acquisition, fluency, maintenance, and generalization), which were described in chapter 4, influence the selection of teaching strategies. The existing literature, which can be analyzed according to the stage of learning addressed by the research, has some helpful implications for designing teaching programs.

Acquisition Stage. In this stage of learning, the student does not know how to perform the task without assistance (scoring 0% to 60% correct on assessments. (Students who resist performing self-care tasks, but can, are not in acquisition, but are unmotivated and perform in later stages of learning.) The goal of instruction during this stage of learning is to provide maximal information to the student about how to perform the core steps and related behavior in the routine. Most self-care research has dealt with this stage of learning and has used some sort of physical prompting system in a whole-task presentation. The acquisition strategies with research support are listed in Table 9–2.

While there are no rigid rules for which instructional procedure is most effective at a given stage, there are "rules of thumb": for students who are completely new to a skill (and thus in the acquisition stage of learning), more *intrusive prompts involving physical prompts or physical guidance* may be best. This might mean using graduated guidance, time delay with physical prompts, or a decreasing assistance prompt hierarchy. During the acquisition stage of learning, many students cannot respond to minimal verbal or gesture cues. Teaching time can be lost moving through two or more prompt levels in an increasing hierarchy, such as least prompts if the least intrusive prompts are not yet meaningful (e.g., during initial instruction for brushing hair, the verbal prompt to "make a part" may not be meaningful). Students with motor disabilities also may need the physical guidance initially to learn the physical movements necessary to perform skills. The exception is students who are less able to tolerate physical prompts.

A *whole-task approach* has several advantages at this stage of learning: The task gets done and students have the opportunity to see the functional outcome of the task, which may not be apparent from only one or two steps. The disadvantage is that lengthy tasks may make early learning too complex. Thus, for some students, backward chaining, forward chaining, repeated practice on problem steps, or instruction in smaller skill clusters (core steps only) is more appropriate. After students begin to master the core part of the task, teachers shift the teaching focus to performing fluently, completing entire routines, and transferring use to a range of natural environments.

We next provide examples of application of the instructional strategies to self-care skills. *Graduated guidance*, one of the most intrusive and intensive approaches we describe, has been used to teach self-care skills more often than any other method. Prompts are intensive initially and then faded. Reese and Snell (1991) used graduated guidance to teach three children with severe disabilities, including motor and sensory impairments, to put on and take off jackets and coats. Instruction began with oversized clothes and involved individualized task analyses. They used three levels of prompts, which progressively faded guidance from full to none:

- Full assist (teacher assists by placing a hand over the student's hand);
- Partial assist (teacher uses an index finger and thumb only to assist);
- Touch assist (teacher assists with only one finger).

Full assistance was provided initially and was continued on each task step until the student indicated that less help was needed. This was communicated by: (a) pressure cues from the student, (b) correct responses made during the latency period, or (c) evidence from instructional data that the student had been successful with less help in the previous teaching trials.

Graduated guidance also may be faded by *hand-to-shoulder fading* (Azrin & Armstrong, 1973; Simbert, Minor & McCoy, 1977). In this approach, guidance is faded from hand-over-hand assistance first to a gentle touch on the hand, then to the forearm, to the elbow, to the upper arm, and finally to the shoulder and upper back. A third way to fade guidance is through *backward chaining*, in which guidance is provided from the beginning of the task though all but the last step, when guidance is reduced or delayed. Guidance is gradually faded by reducing assistance on more and more steps from the end to the beginning of the task. In addition to the use of probes and pressure cues from the student, the level of guidance is sometimes

TABLE 9–2
Effective Strategies for Teaching Self-Care Skills

Strategy	Research On Self-Care Skills	Considerations
Graduated Guidance and Decreasing Assistance Provide physical assistance to the student to complete the task, gradually decreasing the amount as the student begins to perform the task either by reducing pressure or by moving your hand from the student's hand to the wrist, to the elbow, to the shoulder, and away. The decreasing assistance variation provides the student with the highest level of assistance the student requires, decreasing assistance based on probe performance.	**Eating** (Albin, 1977; Azrin & Armstrong, 1973; Miller, Patton, & Henton, 1978; Simbert, Minor & McCoy, 1977) **Dressing** (Reese & Snell, 1991; Sisson et al., 1988) **Other daily living skills** (Matson et al., 1990)	• Provides maximal information about how to perform the task, especially for students new to the task, for students with physical disabilities or visual impairments, and for other students who respond positively to physical assistance • Eliminates time going through prompts to which the student will not respond • May limit opportunity for students to perform some steps independently or with less assistance; some risk for providing "too much help" • Not for students who find physical assistance aversive
Shaping Reinforce successful approximations of the desired behavior.	**Eating** (Luiselli, 1991; O'Brien et al., 1972) **Toileting** (Luiselli, 1996) **Toileting and related skills** (Levine & Elliot, 1970; Marshall, 1966; Richmond, 1983)	• Allows student to experience success by rewarding successive approximations • May require extra materials or time (e.g., having a variety of sizes of clothing so student gradually progresses from oversized to natural-sized clothing)
Simultaneous Prompting Cueing the student to look at task materials, give a task request, and prompt and praise through each step of the task. Use probe trials to determine mastery.	**Dressing** (Sewell, Collins, Hemmeter & Schuster, 1998)	• Provides maximal information about how to perform the task, especially for students new to the task, ensuring success • May limit opportunity for students to perform some steps independently or with less assistance; some risk for providing "too much help"
Forward Chaining Providing instruction on the first step(s) of a task until mastery on initial steps is achieved; then providing instruction on the next step(s) until mastery, and so on.	**Toileting and related skills** (Bettison, 1982) **Dressing** (Alberto et al., 1980) **Menstrual care** (Epps et al., 1990; Richman, et al., 1984)	• Breaks tasks into small teachable units for students who are frustrated by prompting through the entire task • May be more difficult for student to understand function or outcome of performance which may affect student's motivation.

reduced after each set number of trials. For students with multiple disabilities who were learning to dress, Sisson, Kilwein, and Van Hasselt, (1988) reduced the level of assistance after every 10 teaching trials.

Decreasing assistance is a variation of graduated guidance. Look at Table 9–3, which describes how assistance was gradually diminished to shape a 3-year-old boy's self-feeding skill (Luiselli, 1991). In this example decreasing assistance was combined with *shaping* and backward chaining; the teacher began instruction on the last step (step A) by presenting one bite of food in a spoon at eye level (but no plate). The student was expected to grasp the spoon, bring it to his mouth, consume the food, and withdraw the spoon. When the student got four of the six steps correct, he received a preferred activity (20 seconds of looking at a light box and listening to music). Reinforcers were needed because the student indicated dislike of food by pushing the plate of food away and saying "No." Over training opportunities, the

TABLE 9–2
Effective Strategies for Teaching Self-Care Skills

Strategy	Research On Self-Care Skills	Considerations
Time Delay Over successive trials, small amounts of time are inserted between natural cues and instructional prompts. Prompts selected must be effective for the student.	**Eating** (Collins, et al., 1991). **Brushing teeth** (Snell et al., 1989) **Other daily living skills** (Wolery, et al., 1991)	• Provides maximal assistance for student success • Prompts are easily matched to individual student characteristics. • Delay allows student opportunity to perform independently before receiving assistance • Not for students who have difficulty waiting for assistance
System of Least Prompts Select a hierarchy of 3 to 4 prompts (e.g., verbal, model, physical), present the cue to the student and pause for student response. If student is incorrect or does not respond, present the next least intrusive prompt and again pause. Repeat the procedure until the student is successful.	**Eating** (Banerdt & Bricker, 1978) **Brushing teeth** (Horner & Keilitz, 1975) **Dressing skills** (Young et al., 1986)	• Provides opportunities for the student to perform each step independently or with the least amount of assistance required • Strategy is easily implemented with multiple-step tasks • May be time inefficient for students who require most prompts at the most intrusive end of the hierarchy to perform the task correctly
Modeling or Observational Learning Students watch peers being taught and then are provided direct instruction to complete the task. Students are taught in groups of 2 to 3. Each student is prompted to watch the whole task while the others are instructed.	**Dressing** (Biederman, et al., 1998; Wolery, et al., 1980) **Other daily living skills** (Wolery, et al., 1991) **Handwashing** (Biederman et al., 1998)	• May assist students in learning to "learn through observation" • Allows for efficient instruction by grouping students • Does not provide for privacy • Requires focused visual attention, memory, and ability to imitate • Not appropriate for instructor to perform some self-care tasks for observation (e.g., toileting, complete undressing)
Provide Opportunities and Reinforce Appropriate Behavior Provide opportunities for students to perform appropriate skills or behaviors; provide reinforcement or appropriate consequence contingent on instructional target.	**Toileting** (Hobbs & Peck, 1985) **Eating** (Nelson et al., 1975; Riordan et al., 1980; Riordan et al., 1984; Smith et al., 1983)	• Simple strategy, appropriate in most settings • Many students need more information via prompts or other instruction to perform the behavior

teacher gradually increased both the distance between the spoon and the mouth (conditions A to C in Table 9–3) and the performance criteria for obtaining reinforcement—the teacher expected better and better spoon use. Once the boy brought the spoon from the table to his mouth with 100% accuracy, shaping was also used teach the student to accept the plate of food. First the spoon was placed on a plate-sized circular marker. Then, a plate was placed on the marker, but food was still presented one bite at a time. The final step involved presenting the full plate of food and the spoon. This shaping method resulted in independent self-feeding and was retained when checked 12 months after training ended.

Matson, Taras, Sevin, Love, and Fridley (1990) used a decreasing assistance approach to teach brushing teeth, combing hair, dressing, and eating with physical assistance and modeling to three students with autism and mental retardation. During each instructional session, the teacher followed three steps,

TABLE 9–3
Using Decreasing Assistance Plus Shaping and Backward Chaining to Teach Spoon Use

Condition	Criterion	Teacher's Response	Alan's Required Response*
A	C-1	Present one spoonful of food to Alan, at his eye-level.	Grasp spoon, transport to mouth, insert spoon, consume food, withdraw spoon, hand spoon to teacher.
B	C-1	Present one spoonful of food to Alan, one-half way between his eye-level and table top.	Grasp spoon, transport to mouth, insert spoon, consume food, withdraw spoon, hand spoon to teacher.
C	C-1	Present one spoonful of food to Alan while spoon rests on table top.	Grasp spoon, transport to mouth, insert spoon, consume food, withdraw spoon, place spoon on table top.
D	C-1	Present one spoonful of food to Alan while spoon rests on a circular marker [plate size] that is on table top.	Grasp spoon, transport to mouth, insert spoon, consume food, withdraw spoon, place spoon on marker.
E	C-2	Present one spoonful of food in an empty plate positioned on the circular marker.	Grasp spoon, transport to mouth, insert spoon, consume food, withdraw spoon, place spoon in plate.
F	C-3	Place spoon in plate that contains lunch meal [at start of meal].	Grasp spoon, scoop food, transport to mouth, insert spoon, consume food, withdraw spoon, place spoon in plate.

*Underlined responses represent those comprising the six-step feeding trial. Reinforcement was contingent upon 66.6% (4/6) of steps completed at C-1, 83.3% (5/6) of steps completed at C-2, and 100% (6/6) of steps completed at C-3.

Note: Reprinted from "Acquisition of Self-Feeding in a Child with Lowe's Syndrome" by J. K. Luiselli, 1991, *Journal of Developmental Disabilities, 3,* p. 186. Copyright 1991 by Plenum Publishing Corporation. Reprinted by permission.

working with one student at a time. For example, the teacher:

1. Modeled the whole task of tying a shoe, using the student's shoe while giving verbal instructions (e.g., "First, I grab the laces, then I pull them tight. Next I cross this lace over to this side of the shoe. Then I cross the other lace to the other side of the shoe," p. 369).
2. Physically guided the student through the whole sequence (using as little assistance as necessary) with verbal instructions.
3. Asked the student to complete the task with no help and noted which steps the student completed independently.

Thus, a probe of the student's performance was made at the end of each teaching session. The three children improved in their independent ability to perform the tasks, and gains for two of the three participants were maintained over 7 to 12 months.

Time delay (described in more detail in chapter 4) is another effective teaching method. Constant time delay, which involves initial zero-second latencies followed by four-second latencies, has been successfully applied to teach basic eating skills (Collins, Gast, Wolery, Holcomb, & Letherby 1991). Table 9–4 shows the task analyses Collins et al. used to teach a group of young students to eat with a spoon, drink from a cup, and use a napkin at meals. Teachers may either increase the delay period gradually in small increments of 1 to 2 seconds (*progressive delay*) or increase delay quickly by moving from no-delay trials to trials delayed by 4 seconds (*constant delay*). Applying the principle of parsimony (Etzel & LeBlanc, 1979), we recommend using constant delay, which is easier to use and which Collins found to be effective.

The *system of least prompts* has been applied to teach dressing skills (Young et al., 1986). During acquisition, the students were prompted first with verbal and gestural prompts when they did not respond or when they made an error. If the verbal or gestural prompt did not result in correct performance, graduated physical guidance was given. Students were given intermittent praise for success during teaching, and praise, hugs, pats, and stickers at the end of the task whenever performance was improved over the previ-

TABLE 9–4
Task Analyses for Teaching Mealtime Skills with Constant Time Delay

Behavior	Discriminative Stimuli	Response
Spoon	"Eat"	Grasp spoon
	Spoon in hand	Scoop food
	Food in spoon	Raise spoon to lips
	Spoon touching lips	Open mouth
	Mouth open	Put spoon in mouth
	Food in mouth	Remove spoon
	Spoon out of mouth	Lower spoon
	Spoon on table	Release grasp
Cup	"Drink"	Grasp cup
	Cup in hand	Raise cup to lips
	Cup touches lips	Tilt cup to mouth
	Liquid in mouth	Close mouth and drink
	Liquid swallowed	Lower cup to table
	Cup on table	Release grasp
Napkin	"Wipe"	Grasp napkin
	Napkin in hand	Raise hand to face
	Napkin touching face	Wipe face
	Face wiped	Lower napkin
	Napkin on table	Release grasp

Reprinted from "Using Constant Time Delay to Teach Self-Feeding to Young Students With Severe/Profound Handicaps: Evidence of Limited Effectiveness" by B. C. Collins, D. L. Gast, M. Wolery, A. Halcombe, and J. Letherby, 1991. *Journal of Developmental and Physical Difficulties, 3*, p. 163. Copyright © 1991 by Plenum Publishing. Reprinted by permission.

ous session. Finally, inappropriate behavior, like not attending, was interrupted during training with a stern "No" and a 30-second time-out, which involved the teacher's merely turning away from the student. Once the student could perform a task correctly in a consistent manner without prompts, the training procedure Young and his colleagues used was changed to improve the students' fluency or rate of responding. Difficult steps, which were characterized by hesitation, more frequent errors, or self-correcting, were identified and given repeated practice. Thus, if a student usually hesitated and sometimes erred only when pulling the shirt off his head, he was given ten consecutive trials on this step alone.

Fluency. During fluency learning, students understand the task requirements, but need more practice to perform the skill consistently and at an appropriate pace. Students need to be motivated to improve fluency. When students are near mastery of acquisition learning (more than 60% of steps correct), it is often time to revise a program, reduce prompts, and address motivation (e.g., shift from antecedent prompting tactics to consequences, making reinforcement contingent on faster or more perfect performance). Targeting more fluent self-care routine performance often means placing an emphasis on *timed performance*: Teachers or students may time their own performance or students can learn to "beat the clock" to be ready for a preferred activity that follows the task. Other strategies to increase student motivation for practicing and perfecting skill routines include:

- Giving the students choices about the order of completing self-care tasks or what tasks to complete;
- Introducing a buddy system so peers can support students;
- Examining teaching methods: Are methods disliked by the student? Overly intrusive? Stigmatizing? Does instruction pull student away from preferred activities?
- Examining task difficulty: Is the student ready for a more challenging extension of the task and a reduction in teacher control? Is the task too difficult?

When difficult steps are simplified or eliminated or students are given extra practice on them, errors can be reduced and fluency enhanced. Fluency in self-care routines may be necessary for students to have the opportunity to use the skill. Consider the child who takes too much time to dress by herself; her parent often will dress her in the interest of a busy family routine. Jamal, the teenager we described earlier, experienced difficulty on one dressing step, which not only kept him from being fluent but also led to problem behavior.

> *When Jamal finds something intolerable he jumps up and down, screams, and runs. Intolerable events may be unfamiliar situations, changes in familiar routines, or a task he finds too difficult. One example of a difficult task for Jamal was doing up his button-fly jeans. In the toileting routine, Jamal was independent except on "button his jeans by himself." This meant he would leave the bathroom with his pants open, which constituted a social disaster at school! His teacher described one of two things that would happen at these times: (a) He'd wait until someone buttoned his pants or gave him hand-over-hand prompting, which he hated, or (b) his teacher would "back off," give minimal cues but repeat her requests to hurry him (because others wanted to use the bathroom), and he'd get very upset, yell, and jump up*

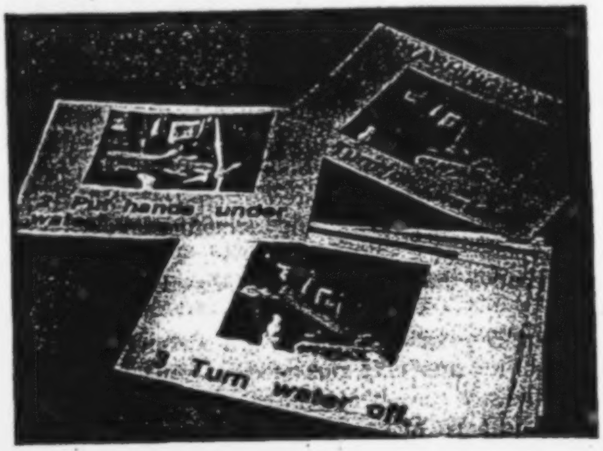
and down. After meeting to solve the problem, the team changed the program with good outcomes. His mom agreed to replace button-fly jeans with zipper jeans as he outgrew them, which would simplify the task. The OT cut the buttonholes a little bigger, making them easier to button and unbutton (simplify task). Staff let him pick an activity photo, which he engaged in right after buttoning his pants (motivation). He worked by himself but could request "help" by signing (communication in place of problem behavior). Staff helped out little by little and praised him for the buttons he had done alone. Currently, Jamal buttons three and sometimes four of the five buttons.

Maintenance. When students begin to demonstrate some mastery of a task, teachers should select less intrusive strategies, provide more opportunities for students to perform independently (Table 9–2), build skill performance into the schedule as a routine, and fade artificial reinforcement that may have been used. The less intrusive strategies allow instructors to fade their presence altogether. Teachers can fade instruction and build routine performance in a number of ways, including:

- Stepping behind, then away from the student; engaging in other tasks nearby;
- Leaving the task area at gradually increasing but unpredictable times (Dunlap & Johnson, 1985);
- Introducing other students or typical peers into the instructional area, so that teacher time and attention are divided among students and less focused on the target student;
- Eliminating intrusive and special prompts, such as physical guidance and modeling, and including nonspecific prompts, such as simple pointing gestures or nonspecific verbal prompts (e.g., "What's next?");
- Using picture task schedules as "permanent prompts" for students to self-manage their daily self-care and chore routines; involving students in selecting and arranging task photos in a schedule book each morning (Bambara & Cole, 1997; Irvine, Erickson, Singer, & Stahlberg, 1992) (chapter 14 expands on ideas for self-prompting).

Teaching students to self-manage their dressing or grooming performances is a maintenance strategy gaining more attention. Several types of stimuli (e.g., pictures, picture checklists, tape-recorded messages, and videotapes) can be used to teach students to prompt and monitor their own performance of a series of self-care tasks that they already know how to accomplish in part. For example, Garff and Storey (1998) taught young adults to use a checklist to self-manage hygiene during work, while Lasater and Brady (1995) used video self-modeling to teach shaving. When material prompting stimuli are used, they may or may not be faded, depending on the student, but such prompts are designed by the team to be nonstigmatizing, easily carried, and independently used. For example, students can select and arrange pictures of morning routine tasks in a pocket-sized booklet to be used like a schedule. For other students, a booklet of task pictures (used initially during acquisition training) may be shortened to single task photos and continue to remind students of task steps after teachers have faded their ongoing supervision (Figure 9–3). For students able to operate a small cassette tape recorder, the Pocket Coach (Attainment Company, Inc.) can facilitate self-management; teachers let students or peers record ahead a series of up to fifteen 12-second self-prompting messages (e.g., brush teeth, shave, shower and *shut curtain all the way*; dress, comb hair, straighten bed, *take medication*, and eat; pack lunch and get bus money). When a person presses the *play* button the message plays or repeats, but when the *done* button is pressed, the tape progresses to the next message.

FIGURE 9–3
Task Step Photos for Teaching Jamal Hand Washing



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Thinesen and Bryan's (1981) study is a good example of self-management through pictures. They taught three men living in a group home to complete their morning grooming routine using a picture book. The men were given a book holding pictures of the tasks that they needed to complete each morning: (a) making a bed, (b) dressing, (c) washing face with soap, (d) shaving, (e) brushing teeth, (f) cleaning glasses (if needed), (g) combing hair, and (h) returning towel and washcloth to personal hanger. During instruction, a picture of a reinforcer was paired with each task, and each man received the reinforcer when he completed the task. The reinforcement was faded by gradually removing the pictures of reinforcement. The men's independence in completing the grooming routine increased and was still maintained when checked 16 weeks after training. During the follow-up phase, the men had access to a book of task pictures, but did not need them: Two men stopped using the book after the first week, and the third man would open the book to any page and then complete the sequence of tasks.

Generalization. During all the advanced stages of learning (fluency, maintenance, and generalization), it is important to reduce prompting and to fade from artificial to natural consequences. To make school and community environments supportive of skills, teachers may involve peers and show them how to give more natural forms of reinforcement (e.g., high 5, "All right!") and error correction (e.g., "Try it again," point to mistake). Environments should be arranged so that students can use their acquired skills regularly and obtain approval (or learn to give self-approval) for task completion at the end of a time period or after a cluster of related routines are completed (e.g., the three interrelated tasks of using the bathroom, washing hands, and returning independently to work). When students use self-scheduling photo books to plan their daily school schedule, self-reinforcement can be an added component of instruction. For example, students can learn to reinforce themselves: (a) by placing checks in a daily schedule book next to the task photos (plastic-covered photos of themselves), which they have completed; or (b) by removing completed schedule photos from one section of a scheduling book and placing them in another section. If particular steps are hard, the photo might portray the difficult part(s) of the task, rather than the final step. (Refer to chapter 14 for more ideas on self-directed learning.)

Using multiple instructors (i.e., teachers, peers, therapists, parents) also enhances generalization because students learn (a) that "who's present" is less relevant than are task stimuli and (b) that they can complete the task despite differences between instructors and supervisors. Generalization is facilitated when students are expected to use the target skill during all opportunities across multiple environments (e.g., eating in the school cafeteria, home economics room, and restaurants; using the toilet and washing hands in the classroom toilet, the school restroom, the restaurant restroom, and the locker room). Teaching across multiple settings means the student learns to adjust the skill on the basis of (a) small or even large differences in materials, (b) changing background stimuli (e.g., noise, commotion, temperature), and (c) varying problems that arise. For example, differences from one bathroom to another include the door into the toilet, the presence or absence of a stall, the type of lock on a stall, the height of the toilet, the presence or absence of supports, the location of supports if present, the location and type of the toilet paper dispenser, the height of the sink and faucets, the type of soap dispenser, the type of paper towel dispenser, and the location and accessibility to the trash container. Even in one bathroom, it is not unusual to have several different soap and towel dispensers! Sailor et al. (1986) suggest recruiting speech and occupational therapists to provide therapy during instructional times, a strategy that not only increases the number of instructors but also facilitates the realism and thus the generalization of therapy gains. Teaching across multiple task opportunities facilitates generalization, although learning may be slow initially.

Reinforcement

Reinforcers should also be individually planned. What is socially reinforcing varies from student to student. Some students may need more concrete reinforcers (e.g., associated object present, not a photo), others may need more frequent reinforcement (e.g., praise during the task, preferred activity at the end). What to use, how much, and how to use it must be individualized by the team. The team aims to teach students to attend to natural reinforcers so their criterion performance is not stigmatized by or dependent on artificial reinforcers. For example:

- John's independent toileting is reinforced by having dry pants, increased independence, and privacy and by being like his peers. Feeding himself without spilling is reinforced by reducing his hunger more quickly and being neat like others.
- Jamal's ability to fasten and unfasten his pants by himself means that he finishes faster and he can go alone to the boy's bathroom.
- If Alycin can learn to change her feminine pad by herself, she can enjoy the privacy that goes with performing a very personal task on her own.

Still, during early instruction, especially if students have limited experience with natural reinforcers, completion of self-care activities alone may not be very reinforcing. Teachers should be prepared to use and systematically fade artificial reinforcers during these later phases of instruction.

Consider Related Skills for Instruction

As with many tasks, self-care tasks often have several components (Brown et al., 1987):

- *Core steps*: The essential behaviors that are involved in task completion.
- *Extension skills*: Task-related skills that provide options to expand meaningful participation but without extensive physical requirements (e.g., initiation, preparation, monitoring the quality, monitoring the tempo, problem solving, and termination).
- *Enrichment skills*: Task-related skills that, while not critical to the independent performance of a routine, add to the quality of its performance (e.g., expressive communication, social behavior, and preference or choice).

Understandably, many teachers focus on the core skills first, since these behaviors are what "gets the job done." But self-care routines provide opportunities to teach beyond the core, extending the task to a more useful level of performance and enriching the routine in ways that make it more pleasant and that integrate it with social and communication skills. For example, evening mealtimes for many of us signal a time to relax and connect with friends and family; thus, we socialize and talk to each other and make choices (all enrichment skills). (Annie and Frank in Figure 9–4 show how they have extended and enriched their eating routines in the school cafeteria and during community-based instruction.)

While eating (i.e., consuming food and beverages by using utensils) means performing the core steps, there are also many ways to extend the core task and make it more complete.

> *Jamal has learned that the lunch bell signals that his "lunch bunch" peers will arrive and they'll head to the cafeteria, get and pay for their lunches, eat together, and when finished, will clean up by taking their trays and trash to the recycling bins and leaving utensils at the dish station. When Jamal learned to respond to the lunch bell and his lunch partners' arrival, he learned to* initiate *on his own. Mastering the lunch line (waiting, getting each item, paying) allowed Jamal to carry out* preparation *steps on his own. Jamal learned to watch his peers' cues to monitor his eating tempo (eat until the group is also done) and to monitor quality* and solve problems *by watching others as they cleared their places and recycled their trash into the right receptacles. After this is done, he knew that lunch was over (termination) and headed back to his home room.*

Reflect on the school-aged self-care routines that lend themselves to socialization, communication, and choice: the extension skills. It is not unusual to see high school girls conversing while doing hair and putting on makeup between classes. Joyce's fingernail-painting routine (see Figure 9–5) is one routine that embeds many social, choice-making, and communication skills. We recommend that teachers enhance task analyses by adding extension and enrichment components to the core task and that they plan to teach during natural opportunities for these routines to occur, particularly when peers are involved. Students can be taught to communicate the desire to begin and end grooming tasks. For example, a student without independent mobility skills could request to be taken to the school bathroom to brush her hair after recess and request to be taken to class before she is late. Choice and approval of finished products are also communication skills that can be embedded into self-care routines. For example, a student who does not have the motor skills to style her hair may be able to initiate a need for grooming, make choices about style and accessories, and approve the final style.

With many self-care tasks, students can have a voice in the task outcome (i.e., making choices

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FIGURE 9–4
Middle School Students Extend and Enrich Lunch Time
(a) Annie has the opportunity to communicate with the cafeteria cashier; and (b) interacts with a peer who helps her balance a cup for drinking. (c) Frank at a community-based eating activity where he communicates his need for assistance in getting more food by pointing to his picture board on his lap; and (d) Frank chooses what he wants, and his teacher gives physical guidance with serving.

about clothes and hair) and should have an awareness of the personal nature of some tasks. Some students may be put at risk because instructors have accidentally taught them that it is acceptable to undress and toilet in front of a variety of adults. Students need to learn to discriminate and respond differently to trusted adults and mere acquaintances or strangers.

FIGURE 9–5
Painting Fingernails
Student partially participates in nail care activity by (a) requesting application of nail polish and giving directions on color preference with an eye gaze communication board, (b) holding still as nails are done, and (c) showing manicure to a classmate.

In the remainder of the chapter, we direct the focus first to toileting skills, then to feeding, and finally to dressing and grooming skills.

Special Considerations for Toileting

Assessment and Instruction

Toileting behavior is one of the most difficult self-care skills to teach because it requires an awareness of internal stimuli (e.g., bladder fullness, bowel tension) and a lengthy sequence of related skills, which must be learned in part or full for the skills to be useful. In this section, we discuss the process for teaching these skills: (a) the prerequisites for toilet training, (b) assessment of daytime performance, (c) approaches for teaching daytime toileting, and (d) approaches for teaching nighttime toileting. (See Chapter 7 for bowel and bladder management for students who require atypical elimination procedures and Chapter 8 for specific toileting considerations for students with motor disabilities; see also Orelove and Sobsey, 1996, and Shephard, Procter, and Coley, 1996.)

Prerequisites for Toilet Training

Three characteristics are essential for readiness for toilet training. These characteristics are interdependent and relate to physiological development—specifically, the maturity of the central nervous system and the muscle sphincters involved in elimination.

- Stability in pattern of elimination
- Daily 1- to 2-hour periods of dryness
- A chronological age of 2 years or older

Generally, students who are ready for training have one bowel movement daily and three to five urinations, but many differ from this pattern. Urination and bowel responses should occur within predictable daily time periods, not randomly.

Assessment of Toileting Performance

In addition to the environmental assessments and task-analytic assessments of related behavior, a toileting or elimination record should be used to record periods of dryness, urinations, and bowel movements (see Figure 9–6 as an example.) The toileting record is a weekly grid with dates and time intervals of 15, 30, or 60 minutes on which school staff, parents, or care providers record type and location of elimination. At least during baseline (the period before a teaching program starts), it is essential to change the student into dry clothing immediately after each accident, accompanied by neutral teacher-student interaction (neither punishing or reinforcing), so that each accident is not confused with earlier accidents.

The purposes of baseline charting vary, depending on the method of toilet training and whether training will initially extend across home and school environments. Traditional toileting approaches rely on knowing the student's natural elimination schedule. To discover whether reliable toileting patterns exist and what these patterns are, most recommend that baseline charting continue for a minimum of at least 2 weeks, with a possible extension to 30 days if necessary (Baker & Brightman, 1997; Fredericks, Baldwin, Grove, & Moore, 1975; Giles & Wolf, 1966). It is wise to continue charting throughout a toilet training program (a) so progress can be assessed by comparing successful eliminations to accidents, and (b) so training can be extended to additional "typical times" as the student demonstrates success for the initial target times.

Students' peers may be aware that a classmate is being toilet trained because of the frequency of removing the child to a nearby bathroom. As such issues arise, teachers should handle them with care and perhaps as part of peer planning groups (chapter 4). The team must be sensitive to the student's right to privacy when selecting the location for baseline assessment and training. We suggest that records be easily accessible by team members who will be recording information, but still secure and private—never taped to the bathroom wall.

The data collection form in Figure 9–6 illustrates one method for monitoring student toileting behavior during the school day; it can be extended to cover all waking hours. In classrooms, we suggest using 15- or 30-minute intervals. While shorter recording intervals (15 or 30 minutes) are more demanding on staff, they give a more accurate picture of the student's elimination pattern.

For one week Ms. Perez and her assistant, Ms. Anderson collected baseline data somewhat sporadically on a 30-minute interval elimination record, but no steady pattern emerged. Because this was a priority skill for John, the team decided to take two more weeks of data but increase pants checks to 15-minute intervals, as illustrated in Figure 9–6, and to assign staff to time intervals to improve their record keeping. At each interval, the assigned adult removed John to a private area and checked his diapers. If he had urinated, a U was recorded in the pants column; if he was dry, a D was recorded in the same column. Whenever he used the toilet, his performance was recorded in the toilet column as student initiated (+) or adult initiated (−). John did not have a bowel movement at school during baseline, which is why BM was not recorded. Ms. Johnson offered her students an opportunity to go to the bathroom upon arrival, on the way to and from physical education and lunch, and before leaving school. During these times, John was taken to the bathroom and these opportunities are recorded in the toilet column. On only one adult-initiated opportunity did John eliminate on the toilet (day 7 at 1:00). On day 6, staff found they were not as regular in their checks as they wanted to be and decided to record the exact time John was checked or eliminated (if known).

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Data Recorded During the Last 7 Days of Baseline and the First 2 Days of Instruction from John's Toileting Program

Elimination Record

Student's Name: John

Recorder(s): Perez, McLean, Lee, Anderson

Baseline Data: Week 2 | Instruction

	Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7	
	Mon		Tues		Wed		Thurs		Fri		Mon		Tues	
Time	Pants	Toilet	Pants	Toilet	Pants	Toilet	Pants	Toilet	Pants	Toilet	Pants	Toilet	Pants	Toilet
8:30									U					
arrival														
8:45	D				D		D		D					
ind														
9:00	D		D		D		D		D		D		D	
group														
9:15	D		D		D		D		D					
group														
9:30	D		U		D		D		D		U		D	
center											9:30			
9:45	D		D		U		D		D				U	
center													9:47	
10:00	U		D		D		U		U					
center														
10:15					U									
PE														
10:30														
PE														
10:45			U											
language														
11:00	D		D		D		D		D		U		D	
language											11:05			
11:15														
prep														
11:30	D		U		D		D		D		U		U	
lunch											11:30		11:35	
11:45														
lunch														
12:00														
story														
12:15	D		D		D		D		D					
rest														
12:30	D				D				D		D		D	
rest														
12:45	U		D		U		U		U				U	
art									12:45				12:50	
1:00	D		U		D		D		D					
recess														
1:15	D		D		D		D		U					
group														
1:30	D		D		D		D		D				D	
dismissal														

Key: D = dry; U = urination; BM = bowel movement; toilet codes: + = student initiated, – = adult initiated; blank = unable to check; L = lunch.

Other: ________________________

Note: If it is possible to record the exact time of the elimination, use the second line for that time period.

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After reviewing all 10 days of baseline data (7 of which are shown in Figure 9–6), four time periods were selected during the day for instruction: 9:45—before the 9:45 to 10:00 time when John usually urinated; 11:30—before lunch; 12:45—after lunch (because John used the bathroom then to clean his face and hands) before the 1:00 time John usually urinated; and right before dismissal, because John's mother reported he was usually wet when he arrived home. In addition, as John was usually wet on arrival at school, he was always changed at 8:15. John's bladder training plans involved taking him 5 to 10 minutes before his usual urination times.

In addition to elimination, assessment should address the skills involved in the toileting routine. Table 9–5 sets forth 12 basic toileting components and lists potential teacher cues and student behaviors that relate to each component. Some components, such as pants down and up and hand washing, have multiple steps. Teachers should develop a task analysis that suits the individual but that is also generic enough to be used with the variety of toilets a particular student uses during the training period.

Whenever team members took John to the toilet, they taught John to use his cane to walk from his wheelchair to the toilet and provided related skills instruction. On the days when he wore clothing with fasteners, they taught fastening and unfastening, but he was taught to flush and wash his hands after toileting every time.

The specific student behaviors and their order in a task analysis also must be considered by the team. For example, with younger children, a better method of teaching wiping requires the child to stand up and then wipe rather than to remain seated. If skirts or dresses are worn, the "pants up and down" sequence changes. Some students with physical disabilities may be more independent if they sit or lean on the toilet to remove their pants. The most "typical" urination position for boys is to stand and face the toilet, and for girls, it is to sit. However, initially, boys as well as girls are taught to use the toilet while sitting; later, boys who have adequate motor control will be taught to stand.

For Alycin, partial participation is necessary for the task steps of pulling pants down and sitting on the toilet. Partial participatory steps are incorporated into her task analysis:

At home, Alycin's mom uses a one-person supported transfer, which involves Alycin being pulled to standing (Alycin can bear weight), pivoted in place, and having her pants lowered (by mom); lowering Alycin onto the adapted toilet seat; and fastening the seat belt. School staff will work with the OT, PT, and mom to modify their two-person transfer so it can be safely executed by one person, making toileting at job settings more feasible. The three will also problem-solve ways for Alycin to be actively involved.

As Alycin's case illustrates, the toileting components, teachers' teaching cues, and student behaviors listed in the task analysis must be individualized.

Approaches for Teaching Daytime Toileting

In this section, we describe several broad approaches to teaching daytime toileting: traditional, improved traditional, and rapid. The primary difference between traditional and rapid methods is the toileting schedule:

- Traditional methods (day and night) rely on toileting students when they are likely to experience bowel or bladder tension (when the bowel or bladder is naturally full).
- Rapid methods (day and night) require students to consume extra fluids, creating more frequent bladder tension and thus additional opportunities for toileting.

Most children learn to control their bowel movement without accidents before they acquire bladder control, and they master daytime before nighttime control. This general pattern also is true for individuals with disabilities, though there are exceptions.

Traditional Toilet Training Methods

Training Considerations. Before beginning instruction, the instructional team must consider clothing, toileting position, and task order. Clothing students in training pants or ordinary underwear rather than diapers is recommended, as it can facilitate detection of accidents during baseline and training (Dunlap, Koegel, & Koegel, 1986). Removing diapers allows learners to experience the naturally unpleasant feedback from wet or soiled clothing that modern diapers have virtually eliminated; these naturally occurring, uncomfortable consequences of accidents can contribute to faster learning. However, without diapers,

TABLE 9–5
Basic Behavior Components in Toilet Training with Teaching Cues and Initial Student Behaviors

Behavior Component	Teacher's Training Cue (Individualized to Suit Student)	Initial Forms of Student's Behavior[3]
Recognizing the need	Do you have to go?[1]	Senses internal stimuli May show outward behavior (grabs genitals, grimaces)
Waiting	Do you have to go?[1]	Senses internal stimuli May show outward behavior (grabs genitals, grimaces)
Entering the rest room.	Go to the toilet.	Walks directly to rest room.
Pulling pants down	Pull your pants down	(Unfastens belt, buttons, zippers) Hooks thumbs into tops of underpants Pushes underwear and outerwear to at least mid-thigh
Sitting on the toilet	Sit on the toilet.	Sits on the toilet seat.
Eliminating	"Pee"[2]	Eliminates.
Using toilet paper	Wipe yourself.	Stands. Reaches and grasps toilet paper. Pulls out and tears off an appropriate amount. Bends and wipes self. Drops paper into toilet.
Pulling pants up	Pull up your pants.	Grasps top band of underpants. Pulls up and into place. Grasps outer pants at waist. Pulls up and into place. (Fastens buttons and zippers.)
Flushing	Flush the toilet.	Places hand on top of flusher. Pushes down on flusher.
Washing hands	Wash your hands.	Approaches sink. Turns water on. Wets hands. Picks up soap and rubs hands. Replaces soap. Soaps hands. Holds hands under water and rinses hands.
Drying Hands	Dry your hands.	Reaches for and grasps paper towel dispenser crank. Turns crank several turns to release appropriate amount. Grabs paper and tears off. Holds paper between hands while turning hands. Drops paper into trash.
Exiting the rest room.	Time for ______	Leaves rest room. Goes to next activity.

[1] The internal cue of bladder or bowel tension becomes the controlling stimulus after training is complete.
[2] Use language suited to the student's chronological age, the setting (school or home), and family practice.
[3] Behavior form may change in later learning (e.g., boys may stand to urinate); task steps will vary to suit conditions and student.

students' toileting accidents can be noticed by peers and be stigmatizing, especially beyond the preschool years. Teams (including family members) must decide the appropriateness of having students wear diapers or not and may make exceptions to this guideline to avoid noticeable accidents. Training pants with plastic pants over them may allow the student both privacy and feedback. For some students, it may be best to remove diapers only with intensive or isolated instruction or if training occurs at home during summer vacation. Teams may decide that wearing diapers in school even when training is under way may be the appropriate choice.

Stages of Toileting Training

Usually as students learn toileting they move through stages, somewhat parallel to the stages of learning, discussed earlier. Some students attain all three stages, others may attain only the first or the first and second stages.

Stage 1: Regulated Toileting. The first stage of toileting is learning to become regulated to a toileting schedule (also called habit-trained or conditioned). Students who acquire reliable patterns of bowel movements and urination can stay dry if someone else reminds or assists them to go to the toilet at scheduled times. School staff can observe the signals that elimination is imminent and then prompt students to use the toilet; alternately staff can take students to the toilet at certain times (e.g., after lunch, before the students' bedtime, at the parents' bedtime). Keeping a fairly stable eating and drinking pattern paired with reinforcement for correct toileting behavior helps students achieve toileting regulation.

> *John's data in Figure 9–6 indicates that he is at this stage of toilet training: regular periods of dryness and elimination, but only rare eliminations on the toilet and no self-initiations.*

Stage 2: Self-initiated Toileting. The second toileting stage toward independence is self-initiation and involves learning to discriminate the natural cues of bladder fullness (for bladder control) and pressure in the lower bowel (for bowel control). During this stage of learning, we want students to make a connection between these internal stimuli and the response of eliminating on the toilet. Giving positive feedback as soon as students eliminate on the toilet helps them make this connection. Once a student is sitting on the toilet, teachers may make regular checks and (depending on its appropriateness) listen or look for urination or defecation so they can provide reinforcing feedback with little delay. Students may tell someone or signal a need to use the bathroom or they may seek permission or simply initiate toileting on their own; these are signals both for enthusiastic praise and getting them to a bathroom quickly with as little help as necessary.

> *Generally, Alycin can initiate the need for a toilet, and her pattern of elimination is very regular. Several initiation challenges remain for her and school staff: (a) Alycin being able to reliably signal others with her electronic communication board, (b) staff learning to attend to Alycin's requests and act upon them, (c) staff more efficiently providing assistance to get her to a toilet and make the transfers from wheelchair to toilet, and (d) Alycin learning to participate in the toileting components more quickly.*

Stage 3: Toileting Independence. The final stage in the toileting process is gaining independence. Independent students not only are aware of the need to toilet but also manage clothing and related cleanup skills (e.g., wiping, flushing, washing hands). At this stage, trainers fade themselves out of the bathroom during routine toileting and the focus shifts to skill generalization, fluency and proficiency issues (e.g., speed, elimination of all accidents, social awareness), and routine performance. For many students, nighttime training may also be initiated at home.

> *Jamal is working on independence: he self-initiates, has not had an accident at school for over a year, and can perform most of the related skills. Once Jamal learns to unfasten and fasten his pants, he will have achieved independence.*

Several authors recommend training steps and related practices that may make traditional bowel or bladder training more successful (Baker & Brightman, 1996; Fredericks et al., 1975; Linford, Hipsher, & Silikovitz, 1972; Schaefer & DiGeronimo, 1997):

1. Continue diapers when students are neither bladder or bowel trained; the training focus typically will be bowel training first because it is easier to learn; also accident cleanup is easier and involves giving less attention. Any accidents are changed in the bathroom without a fuss. If bladder training is the focus, training pants are better than diapers,

but the team needs to decide depending on the circumstances.

2. Learn how the student signals the need to eliminate. Signals for a bowel movement are more obvious (e.g., gets quiet, squats, strains, red in face). Whenever these signals occur, take the student to the bathroom even if it is not a scheduled time, and then record these times on the record.
3. Follow the toileting schedule consistently, changing times only after the team analyzes new elimination patterns and elects to make adjustments.
4. Use the regular toilet, with adaptations added only as necessary: (a) to keep the student's feet flat on the floor or on a nonslip support and (b) to keep the student sitting securely (e.g., toilet seat inset). Sometimes (as in Alycin's case) specialized toilet chairs are needed, support bars (as in John's case), or perhaps even potty seats (if the child is younger than age 5 and very small). If students are unstable while sitting, they will have trouble relaxing the sphincters that control elimination. When needed, team members should pool their talents to generate appropriate adaptations that are nonstigmatizing and practical.
5. Keep the toileting time positive but not distracting. Any rewarding activities (e.g., toy play, books) should take place after toileting and out of the bathroom. Unneeded conversation (e.g., social talk, singing, rhymes) is kept to a minimum, though talking about the toileting task in ways suited to the student is appropriate.
6. Take the student to the toilet according to schedule or when a need is signaled. Approximately:
   - 15 minutes before the scheduled time for *bowel* training
   - 5 to 10 minutes before the scheduled time for *bladder* training

   The specific length of time for sitting on the toilet should be determined on the basis of individual student characteristics. The student should be placed on the toilet long enough to have the opportunity to eliminate but not for so long that toileting becomes aversive.
7. Reinforce the student when elimination occurs. If elimination does not occur, return the student to the classroom for a 5- to 10-minute interval and then return to the toilet. Continue the alternating intervals until elimination occurs. Record any extra toileting times and the outcomes.
8. Continue elimination records so the team can evaluate progress and adjust toileting times as needed.
9. Consider extending goals as the student is successful (e.g., add more times, add bladder training, move from regulation to a focus on self-initiation and then independence).

Table 9–6 illustrates some of the basic rules of a traditional toilet training approach (Hobbs & Peck, 1986).

TABLE 9–6
The Rules of Toilet Training

Do	Do Not
• Reinforce students for using the toilet (e.g., praise, physical contract, tangibles, as appropriate for age, student, setting).	• Do not reinforce students when wet. Do not talk, scold, or give eye contact or unneeded touch.
• When there is an accident, clean the student without delay.	• Avoid letting students get social reinforcement while wet or soiled.
• Until students are clean, remove them from class activities, without reprimand.	• Do not let students get used to being wet or soiled.
• In private, clean students impersonally with damp towel after accidents (should be neutral, not reinforcing); dress in dry clothing.	• Do not give showers or baths to wet or soiled students.
• Give students regular opportunities to use the toilet (e.g., once every 2 hours or more often).	• Do not let students eat or continue eating when an accident occurs before or during a meal. Clean the student first.
• Stay with or nearby students while they are on the toilet, listen and watch for their elimination, and reinforce eliminations immediately.	• Do not skip or delay a scheduled toileting.
	• Do not leave students during toiletings because you may miss an opportunity to reinforce eliminations. Do not delay reinforcement.

Note: Adapted from Hobbs, T., & Peck, C. A. (1986). Toilet training people with profound mental retardation: A cost effective procedure for large residential settings. *Behavioral Engineering, 9*, p. 53.

Improved Traditional Methods

When traditional toilet training is insufficient, teachers may consider one or more of the following procedures: (a) pants inspections, (b) consequences for accidents, (c) increased fluids, or (d) the use of moisture-signaling devices.

Pants Inspections and Reinforcement. Pants checks consist of assessing whether or not a student is wet or dry and providing appropriate feedback (reinforcement for continence or signaling a need to change if wet). During the first two phases of toileting (regulation and self-initiation), pants checks serve to increase student awareness of being wet or dry. When learning to become independent, pants checks can help students maintain continence. These checks were introduced as a component of rapid training programs (Azrin & Foxx, 1971; Foxx & Azrin, 1973). The technique consists of three steps:

1. Question the student about dryness, using simple phrases and gestures (e.g., "Are you dry?").
2. Prompt the student (in a manner that respects his or her privacy) to look at and feel the crotch area of the pants.
3. If the pants are dry, reinforce with praise for dryness ("Good, you have dry pants! Pick a music tape."). If the pants are wet, indicate their wetness with disappointment and withhold reinforcement ("Oh, you have wet pants. No music.").

Specific length of intervals between pants checks, their timing, the feedback given for wetness and dryness, and reinforcement for continence should be individualized by the team to suit the student. Feedback should always be directed toward increasing student awareness of being dry and wet; when wet, pants should be changed.

> *John's first instructional program consisted of the traditional methods described above, half hourly pants inspections, and enthusiastic verbal praise for dry pants. When this was not successful, pants checks were increased to 15-minute intervals whenever sufficient staff were present in the room.*

Consequences for Accidents. When students are learning toilet control and are purposefully taken out of diapers, some accidents must be expected. Thus, a regular procedure for responding to accidents should be planned by the team. In most cases, extinction (planned ignoring) will be the consequence of choice, however, the team may consider several options:

1. *Extinction.* Following an accident, change the student's pants and clean the student in a neutral manner, with little socialization. Be careful not to provide any reinforcing activity too soon after an accident (Hobbs & Peck, 1985).
2. *Disapproval.* As soon as an accident is discovered, approach the learner ***in a manner that respects his or her privacy***, have the student feel and look at the pants, and express some disapproval in your words and facial expressions ("Oh, you wet your pants." or "No music. You have wet pants."). Leave the student wet for up to a few minutes to experience the discomfort. Then change the student, using the extinction procedure.
3. *Cleanup.* Require the student to participate in washing themselves and changing their clothing. Student cleanup should be implemented as a natural consequence with little socialization. Requiring the student to repeatedly practice going to the toilet or to do more than required (e.g., mop the entire floor where the accident occurred instead of just cleaning the soiled area of the floor; changing all clothing when only training pants were soiled) is aversive and should not be used. Use the cleanup participation strategy cautiously, as students who require prompting to clean themselves up may be reinforced by attention for the accident or may become upset emotionally. Also, some students who clean themselves independently may find it reinforcing to leave classroom demands.

The approaches for handling accidents must be carefully matched to a given student. Note that if extinction is selected, neither disapproval nor student cleaning up of accidents should be used. However, disapproval and cleanup consequences may be used together, or disapproval may be used alone. Cleanup typically includes mild disapproval.

Regulating or Increasing Fluids. Another strategy to improve instruction when students are not making progress is to control or increase the frequency of instruction by loosely regulating or by increasing the student's fluid intake. Loosely regulating fluids simply involves scheduling the times of day that a student has fluids (not necessarily an increased amount) so it is coordinated with toileting instruction. For example, if, during baseline, a teacher notes that a student tends to urinate approximately 2 hours after drinking, the teacher could schedule a fluid break 2 hours before a convenient time to implement toileting instruction in an appropriately private setting. We do not know of any research on this method of informally redistributing the fluids that would be drunk or offering an extra drink to coincide with scheduled toilet training. If used, several practical guidelines should be followed, which are addressed after a discussion on increasing fluids.

Alternately, having the student drink one to three small glasses of juice, milk, or water during the school day can provide more opportunities for the student to eliminate and therefore to receive instruction. The use of increased fluids, or hydration, as a means of promoting urination and, thus, extending the opportunities for bladder training must be accompanied by certain precautions. When the intake o water or other liquids is forced or encouraged over ar extended period, the balance of electrolytes in the body may be seriously endangered. *Hyponatremia*, or a low serum sodium level, may result. Hyponatremia is associated with nausea, vomiting, muscular twitching grand mal seizures, and coma (Thompson & Hanson 1983). This condition "constitutes a serious medica emergency requiring prompt sodium replacemen therapy and other medical support" (p. 140).

If the team decides to increase fluids, we recommend that fluids not be increased by more than three small servings. This will allow regulation of toileting opportunities without putting the student's health a risk. Fluid regulation also must be used cautiously and teams must be flexible in their plans: If students wan fluids when not scheduled to have them or do not wan them when scheduled to have them, the plans for fluid

John's Toilet Training

When John's team looked at his instructional data, they decided that his pattern of elimination was too variable to predict full bladder times accurately. They decided to attempt to stabilize the morning urination pattern by giving John a 6-oz beverage of his choice as soon as he arrived at school, and again at lunch. With the fluid increase, John consistently urinated around 9:30 and 12:30, so his teachers selected 9:20 and 12:20 for toileting times. On John's first occurrence of urinating in the toilet (2 days after the program revision), Ms. Perez cheered for him. John praised himself, saying that he had gone to the bathroom "like big boys do." Within 2 weeks, John was no longer having accidents at school. His mother reported that John was still arriving home wet. When giving John an additional opportunity to use the toilet before leaving was unsuccessful, the team decided to eliminate the extra fluid at lunchtime. This solved the problem on the bus, but John continued to have toileting accidents at home.

The next phase of the program planning concerned the home: (a) the use of diapers was stopped, (b) John's mom took him to the toilet every 2 hours, and (c) John was praised for having dry pants. These procedures were successful in getting John to maintain dry pants for 1 month both at home and school.

Then, John's team began self-initiation training at school. Instead of automatically taking John to the bathroom at designated times, they asked (as is typical to do in Kindergarten), "Does anyone need to use the bathroom?" If John did not respond, they prompted him to raise his hand and took him to the bathroom. When he responded in the affirmative to the question without prompts for 1 week, they no longer prompted him to use the toilet. If he raised his hand, they took him to the toilet; if he did not, they allowed him to continue his classwork. John remained dry and spontaneously requested to go to the bathroom. At this point, the teachers withdrew the increased fluids.

John successfully maintained dry pants for 2 months with self-initiated requests only. Then, his mother reported that he began having accidents at home and on the bus again. Within a few days, the accidents began at school also. John's mother reported that his father had received a temporary transfer and was living in another town for 3 months. John's accidents seemed to occur only when his father was away, not when the father was home with the family. The team decided that John's mom and his two teachers would re-institute verbal reminders for using the toilet. Every hour, John was taken to the bathroom if he needed to go. His response was honored; if he said yes, he'd go to the toilet, but if he said no, he continued his activity. Finally, his dad agreed to call daily and praise John for his successes at school and home in toileting and other areas. This procedure reduced accidents to one or two a month. When John's father returned home, the hourly prompts were faded and John continued his success in toileting.

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regulation must changed to reflect students' requests. Increased fluids should not be forced on students when they indicate they do not want them.

Moisture Signaling Devices. One possible reason students may not learn toileting is delayed feedback. Students who wear modern disposable diapers often feel little discomfort when they are wet, and teachers may be unable to identify exactly when elimination occurs. Learning to associate bowel or bladder tension with elimination (e.g., sphincter relaxation) is facilitated when students are quickly taken to the toilet during urination or bowel movement and receive approval. Moisture-signaling devices are used to signal the moment of elimination.

Two types of moisture-detection or urine-signaling devices have been used along with other teaching methods:

1. Toilet alert: A special potty chair or a small toilet bowl that fits under the regular toilet seat which catches eliminations and triggers an auditory signal through the detection of moisture (Foxx & Azrin, 1973; Herreshoff, 1973), and
2. Pants alert: Training underpants that detect moisture when students eliminate in their clothing (Mahoney, Van Wagenen, & Meyerson, 1971; Van Wagenen & Murdock, 1966; Smith, 1979). These special underpants involve a circuit and switch plan somewhat similar to the toilet signal; the signaling device is attached to the pants, shirt, or vest pocket.

Both devices involve a low-voltage circuit being completed when moisture activates the switch for the auditory signal. The signal allows staff to provide students with appropriate feedback the moment an elimination occurs. Moisture-detecting switches connected to a potty chair or toilet inset signals the moment for positive reinforcement; moisture-detecting underpants signal the moment an accident occurs. Thus, reinforcement and accident procedures can be implemented without delay. (Refer to Azrin, Bugle, and O'Brien, 1971; Herreshoff, 1973. These devices are available through the Sears & Roebuck Co. and the J.C. Penney catalogs and are carried by many local pharmacies; pediatricians also can direct parents or teachers to suppliers.)

Despite the efficiency of signaling the moment of elimination, the disadvantages of moisture-signaling equipment in a toileting program are multiple. The equipment, which is noisy and fairly obvious (especially when it signals), can be quite stigmatizing to students who use it. If students spend time in regular education classes and activities in the school and community, such equipment use may not be appropriate. Other problems with the device include expense, breakdown, or failure (Mahoney, et al., 1971; Smith, 1979). However, for some students, moisture-signaling equipment may be appropriate during, for example, an at-home summer program. Teams should view moisture-signaling devices as optional and for use in unusual situations in which toileting progress has been minimal and toileting control is relatively important for the individual.

Rapid Training Programs

Current Views of "Rapid" Approaches. "Rapid" toilet-training methods actually are rather complex training packages based primarily on the research of Azrin and Foxx (Azrin & Foxx, 1971; Foxx & Azrin, 1973, 1974) or of Van Wagenen, Mahoney, and colleagues (Mahoney, Van Wagenen, & Meyerson, 1971; Van Wagenen, Meyerson, Kerr, & Mahoney, 1969; Van Wagenen & Murdock, 1966). Some components of the packages (e.g., pants inspections, moisture-detection devices) have already been discussed. The packages are described as "rapid" because the program usually is delivered with high intensity, and researchers often have reported rapid changes in student performance. However, the intensity of the delivery conflicts with some of the accepted best practices in the field today, and the speedy results have not been consistently replicated by others.

Most applications of rapid approaches to toilet training have employed one or more of the following questionable practices: (a) fluid increases that may be dangerous; (b) removal of the student from all or most instruction other than toileting; (c) removal of the student from opportunities to participate in interactions with nondisabled peers; and (d) the likelihood of excessive punishment. Two rapid approaches (Mahoney, Van Wagenen, and Meyerson, 1971; Richmond, 1983) are less intrusive and nonaversive in their application; we describe only Richmond's procedure because, unlike Mahoney's approach, it does not require expensive, specialized signaling equipment.

Richmond's Rapid Procedure. Four preschool children with profound retardation were successfully toilet trained with increased opportunities to use the toilet.

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intervention consisted of four training phases (i.e., toileting every 15 minutes, every 30 minutes, every hour, every 2 hours), each lasting 1 week, and followed by a posttraining, or maintenance, phase. Each toileting trip was proceeded by a pants check. If no accident was detected, the child was praised for having dry and clean pants ("Good for you, Danny, your pants are dry and clean."). The teacher then asked the child, "Do you need to use the toilet?" The child was prompted to respond and go to the rest room. In the rest room, the child was praised for engaging in the related toileting behaviors (e.g., pulling pants down and up). If necessary, graduated guidance was used for these behaviors. Social praise and liquids were given for successful toileting, and no comments were made when accidents occurred. Extra fluids served both as reinforcers and to increase the frequency of urination. When an accident was detected, the teacher gave a brief reprimand and simple correction (i.e., the child was responsible for getting a clean set of clothes, removing the dirty clothes, washing soiled body areas, disposing of dirty clothes, and dressing). Their schedule for morning preschool continued even with the frequent toileting interruptions. Richmond's results offer encouraging news to teachers in that simple toileting methods applied in a consistent manner can be effective over a 9- to 15-week period without extreme techniques or schedule changes.

Eliminating Toileting Accidents

There is less research that deals with the problems of partial toileting control during waking hours. Two somewhat different approaches have been used to eliminate toileting accidents once bladder control is attained. The first approach is to ensure continuity of treatment across the settings a person uses daily. Dunlap, Koegel, and Koegel (1984) employed the combination of training methods (i.e., pants checks, urine-sensitive pants, reinforcement for success, and graduated guidance for related behaviors) on a schedule of once or twice an hour. They found that when similar approaches were employed at either the school or the homes of three young students with autism, students made no clear progress toward mastery. Only when training methods were consistently and simultaneously implemented across these and the other community settings that the students visited daily were steady gains made in successful toileting. One adult per child was designated as the program coordinator, whose job it was to (a) initiate contact with a designated support provider in each setting, (b) ensure that this person understood the teaching and data collection methods, (c) ensure that the child carried written instructions to facilitate consistent use of procedures by staff, (d) ensure full-day coverage, (e) contact trainers immediately after the first day to check the procedure and answer questions, and (f) continue regular phone contacts with trainers to promote coordination and consistent implementation of treatment. For two of the four students, however, infrequent bowel accidents continued for several months after bladder control was attained, making the effects of the continuity-of-treatment approach on bowel accidents less clear.

In the second approach to reducing bladder accidents, Barmann, Katz, O'Brien, and Beauchamp, (1981) combined hourly pants checks with a somewhat normalized version of positive practice or cleaning up after accidents (i.e., a punishment technique in which a student is required to restore a situation after an accident to an extreme level of cleanliness). For example, when the three boys with moderate to severe mental retardation were dry they were praised verbally, but when wet they were required to: (a) get a towel, (b) clean up all traces of urine or feces, (c) go to their bedroom and get clean pants, and (d) place the wet pants in a diaper pail. The pants check and praise for dry pants were used in both the home and the school, while positive practice was required only at home to test whether its effects generalized into the classroom. For all three students, the procedures led to substantial improvements over their baseline accident levels of 3 to 4 accidents daily. Once overcorrection was instituted in the home, there was an immediate decline in accidents there and at school, followed by complete elimination of accidents.

Encopresis, or partial bowel control, can take two forms: (a) retentive (extreme constipation) and (b) nonretentive (soiling). Treatment programs must match the type of encopresis and the actual and likely reasons for its presence. Boon and Singh (1991) and Doleys (1985) recommend individually designed teaching programs that emphasize reinforcement for appropriate bowel movements, periodic pants checks, and possible use of laxatives or enemas in the early stages of training, but no punishment.

Approaches for Teaching Nighttime Toileting

Fredericks et al. (1975) and Linford et al. (1972) describe variations in traditional nighttime training procedures that they found successful in individuals having severe disabilities, but they unfortunately do not report any objective outcome data. Support providers using a traditional approach should follow the general steps listed below.

Traditional Procedures

1. Decrease the liquids a student has during the evening; 1 1/2 to 2 hours before bedtime, no more fluids are given.
2. Ask the student to go to the toilet just before a fixed bedtime.
3. Before training starts (during baseline), check the student every hour, if possible, to obtain a night elimination schedule.
4. Analyze 2 weeks of records and identify the time that is typical for accidents. About 30 minutes before this typical accident time constitutes a time for training; target a second earlier training time about 1 to 2 hours after going to bed. Once these two target times are identified begin training.
5. Before bedtime, instruct the student in simple language and gestures (and perhaps showing a reinforcer) that a dry bed will be rewarded in the morning (e.g., a special breakfast food, toy, an activity). In the morning, check the bed and enthusiastically reinforce the student if it is dry. Ignore wet beds.
6. Check the student for accidents or dryness about 1 to 2 hours after going to bed, and record results on a nighttime chart.
    a. If dry, wake and reinforce the student (this step may be omitted).
    b. If wet, wake and neutrally change the pants, pajamas, and sheets. Involving the student neutrally in some cleanup is an option the team may consider.
7. Also awaken the student 30 minutes before the usual accident time and, if not wet, direct him or her to go to the toilet. Require that the student sit on the toilet without sleeping for 5 minutes, or less if the student urinates. Praise and chart successes but neutrally return an unsuccessful student to bed, charting a failure to eliminate.
8. If the student is wet when awakened, neutrally clean the student and return him or her to bed, chart the accident, and awaken the student earlier the following night.
9. Once the wake-up time that allows the person to be toileted once and remain dry has been identified, strengthen the student's ability to withhold urine for longer periods each night by gradually moving the wake-up time back (to earlier times) in intervals of 10 minutes; continue charting to monitor accidents.
10. Continue to provide powerful reinforcers in the morning for dry beds while giving social praise during the night for correct elimination or dry bed checks.

Signaling devices have been developed to assist in nighttime toilet training and have been used successfully with students having multiple disabilities (Coote, 1965; Lovibond, 1963; 1964; Mowrer & Mowrer, 1938; Seiger, 1952). Moisture-signaling devices tend to take several weeks or months to establish initial control, but do so in about 80% to 90% of people who have nocturnal enuresis. Unfortunately, relapse is common (Lovibond, 1964; Sloop & Kennedy, 1973; Smith, 1981). When a team elects to use moisture-signaling devices, they must understand the equipment, familiarize the student with it, and ensure that the student will not be injured from potential misuse.

Special Considerations for Eating and Mealtime

Assessment and Instruction

Eating is perhaps the most functional and frequently used of all self-care skills. When developing individualized plans for teaching eating and mealtime behavior, teams focus on the general goals of healthy eating (e.g., meeting nutritional needs, eating without choking) and eating as independently as possible. This section of the chapter addresses elements of assessing and teaching basic mealtime skills in learners whose objectives aim or will aim for self-feeding. Two other chapters address issues we do not cover but which are relevant for many students: nutrition monitoring and supplementation and nonoral feeding procedures (chapter 7) and specific feeding and eating

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considerations for students with motor disabilities (chapter 8). Current references supplement the coverage of these topics (Case-Smith & Humphry, 1996; Christensen, in press; Orelove & Sobsey, 1996).

Eating is unique in the self-care domain because, in addition to filling our primary needs for nutrition, mealtimes are often a time for socializing. Mealtimes mean conversation, getting together with friends and family, sharing, and enjoying food. This should be true for students with disabilities, too. Pleasant and gratifying mealtimes can enhance the maintenance and generalization of eating skills and the social and communication skills embedded in eating routines. Teams should structure mealtime and eating instruction so social opportunities are not lost but used for learning and enjoyment.

Eating is also unique in the self-care domain because the need for instruction must be considered in light of nutritional needs. Individual student characteristics influence the amount of teaching time. Ideally, some instruction can be provided on core and related skills throughout each entire meal and snack. However, some students (i.e., those with physical disabilities, just beginning to learn self-feeding or exhibiting interfering behaviors) require unusually long mealtimes and may become fatigued and discontinue eating. If a student is not eating enough to maintain nutrition or the mealtime instruction is interfering with time to teach other priority goals, teachers may schedule instruction initially for the first one third to one half of the meal, and more fully assist the student during the remainder.

The Sequence for Teaching Mealtime Skills

The core eating skills typically are taught in a general developmental sequence beginning with various aspects of dependent feeding (e.g., anticipates spoon, uses lips to remove food with utensils), eating finger foods, eating with a spoon, drinking from a cup, using a fork, spreading and cutting with a knife, serving food, using condiments, and displaying good table manners. In general, targets should be both realistic in relation to the current performance of students and also immediately or subsequently relevant (prioritized by the family or teacher as being needed on a regular basis). Additionally, students must learn to eat a variety of foods, since food refusal and food overselectivity can put students at risk nutritionally, for growth, and for other health problems.

Not all eating skills, however, should be taught in a developmental sequence. Incorporating into mealtime routines the related skills a student can do or can learn will facilitate improvements in independence later. For example:

> *When Alycin was very young and highly dependent on others for feeding, parents and teachers taught her to initiate eating by making the sign for eat and vocalizing the "Eee" sound. Then, they put her bib on her tray and she learned to feel for and grasp it.*

Likewise, teaching skills in a functional order, even if not the developmental order, may be the best option. For example, Mary, who is age 8, knows how to use a spoon without spilling, but does not use a fork or cut with a knife. Developmentally, she "should" master these first, but her team has decided that using a napkin and going through the lunch line are more functional, even if she bypasses fork and knife use for now.

Prerequisites for Instruction in Self-Feeding

For students to be successful in learning self-feeding, they need an active gag reflex and the skills of sucking, maintaining closed lips, swallowing, biting, and chewing. Mastery of these basic skills greatly reduces the risk of choking. Before beginning assessment or instruction, students should be in the proper position for eating, even when they do not have extensive or obvious motor disabilities or high or low tone in their muscles. Proper position has a big impact, not only on learning and success with eating, but also on the prevention of choking and the aspiration of food. The student's head must be stable, in midline, and with the chin and jaw as near to parallel with the floor as possible.

Monitoring Student Performance at Mealtimes

Monitoring at mealtimes can be challenging during phases when the student still requires physical assistance. Eating skills and related mealtime behaviors may be measured in several ways: (a) frequency or percent of correct responses, (b) duration or rate of correct responses, (c) frequency or percent of errors, (d) duration or rate of errors, and (e) task-analytic assessment. (Chapter 5 describes these measurement methods in more detail.) Team members can observe and assess throughout an entire meal routine, for part of a meal, for several trials (e.g., eating with a

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spoon, drinking from a cup), or can observe the aftereffects of eating (e.g., assess the mess on the table and floor). One decision that affects these choices is whether the behavior is viewed as being a discrete or isolated behavior or as a task composed of component skills. For example, spoon use has been defined as a discrete behavior: "Moving appropriate food from the container (e.g., pudding, soup) with the spoon held in one hand, by the handle, right side up and without spilling (except back into the container from which the food was taken)" (O'Brien & Azrin, 1972, p. 391). The same skill has also been defined as a task made up of component steps: "Grasp spoon, scoop food, raise spoon to lips, open mouth, put spoon in mouth, remove spoon, lower spoon, release grasp" (Collins, et al. 1991, p. 163) (see Table 9–4).

Related and embedded skills may also be a focus for monitoring instruction. Figure 9–7 shows how a teacher collected data on the component skills for eating lunch in a school cafeteria by using a task analysis while counting the number of correct fork use responses in the first 10 opportunities.

Mike (introduced in Figure 9–1) has just gotten an electric wheelchair and needs to learn how to control it. In addition, he is beginning to use an augmentative communication device (i.e., a folder with pages for specific activities during the day). Mike has some verbal language, so his teacher is monitoring greeting skills, too. Skills in these three areas (i.e., mobility, communication, social skills) are embedded in the task of getting lunch in the cafeteria. The targeted eating skill for Mike is stabbing bites of food with his fork. The teacher collects data on the number of correct stabs (e.g., stabs a bite of food on the first attempt and moves the food into his mouth with no spilling). In the cafeteria line, peers help Mike reach for food items and put them on his tray and also provide guidance on operating the wheelchair. Task steps for peers and cafeteria workers are noted in parentheses in the task analysis.

For Mike's instructional program, data are summarized by percentage of steps correct in the total task; the frequency of bites with appropriate fork use (i.e., no assistance and no spills off the plate); and the frequency of embedded skills (e.g., communication, mobility, and social steps).

During the first 2 weeks of the program, the teacher monitors student and peer tutor performance and models appropriate prompts for the peers; she collects data daily during this initial period. As peers begin to provide appropriate levels of assistance, the teacher withdraws and lets the peers implement the program independently, observing and collecting data less often, while Mike, the peer assistants, and the cafeteria workers informally report on Mike's progress.

The combination of embedding related priority skills into the lunch routine with using peer models constitutes a powerful approach for building mealtime skills.

Team members should expect students to be messy while they are learning to eat. Spilling and other errors of untidyness go along with learning to eat with one's fingers and with utensils, using adapted utensils or eating equipment, and drinking from a glass. If spilling and messiness errors continue as students acquire the basic steps, teachers should conduct observations and task analytic assessments to determine where the errors occur in the response chain (e.g., locating food, grasping utensils, scooping out of the bowl, bringing food to the mouth, putting food into the open mouth, leaving food in the mouth, chewing food, swallowing food) and why (e.g., poor lip closure around the spoon). Messiness is not only influenced by the student's level of skill but also by the student's muscle tone and control, the sitting position, the type and consistency of food, and the utensils, cups, or adapted equipment.

Alycin has been making progress using her electric self-feeder independently. Once set up and positioned, the self-feeder requires that someone monitor the food on the rotating plate, but Alycin can operate the switch to activate the spoon that dips automatically into the food as the plate turns. Alycin's mom has learned a lot about the required casserole food consistency that keeps spilling to a minimum. She makes lasagna 16 different ways and freezes it so the family can eat most meals together, while Alycin uses her self-feeder. The new self-feeder they hope to purchase will help Alycin eat soups, cereal, and ice cream.

At an early planning meeting, the OT initially suggests that adapted equipment will help John with his messiness. Therefore, Ms. Perez gives him a bowl with a built-up side and utensils with built-up handles. Although John is neater with the built-up materials, he complains about not having a cafeteria tray like others. Later, because John prefers the natural materials, the team decides to eliminate the special bowl and utensils and use reinforcement for neatness. At school, neatness is rewarded with preferred activities. At home, John's mother agrees to serve ice cream contingent on having a

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FIGURE 9–7
Data Sheet for Component Skills of Eating in the School Cafeteria

Student: Mike

Program manager: Carla

Setting and time: Lunchroom, 11:35

Peers: Bill, Jane, Karen

Stimulus: Teacher tells students that it is time for lunch

Procedure: System of least prompts (SLP) for all steps except wheelchair
Graduated guidance (GG) for wheelchair steps

Date	10/5	10/6	10/7	___	___
1. Initiates driving wheelchair to area where lunch folder is kept (mobility)	H	H	H	___	___
2. Picks up folder and places on tray	P	P	G	___	___
3. Navigates hallway to get to cafeteria (mobility)	H	H	H	___	___
4. Enters line and positions chair in front of milk cooler (mobility)	H	H	H	___	___
5. Opens folder and points to picture indicating milk choice (communication) (Peer: Gets milk and puts on tray)	P	G	V	___	___
6. Moves to food area (mobility)	H	H	H	___	___
7. Greets cafeteria worker (social) Cafeteria worker asks Mike what he wants to eat	V	+	+	___	___
8. Points to picture indicating choice (communication) (Peer: Puts plate on wheelchair tray)	G	V	+	___	___
9. Moves to salad/dessert area (mobility)	H	V	L	___	___
10. Points to salad/dessert choices in communication folder (communication) (Peer: Puts items on tray)	V	V	V	___	___
11. Moves chair to cashier (mobility)	H	H	L	___	___
12. Greets cashier (social)	V	V	+	___	___
13. Hands lunch money to cashier	G	G	G	___	___
14. Waits for change to say "thank you" (social)	+	+	+	___	___
15. Goes to lunch table (mobility)	H	H	H	___	___
Percent steps correct (out of 15)	6	13	33	___	___
• Correct fork use responses during first ten opportunities (10)	III	𝍸	𝍸	___	___
Embedded skills (13)					
• Communication (3)	0	0	2	___	___
• Mobility (7)	0	0	0	___	___
• Social (3)	1	2	3	___	___

Key: + = Independent
SLP: *Verbal, Gesture, Physical*
GG: *Hand-over-hand, Light touch, Shadow*

clean table and floor area after eating. This is effective on most days. However, some foods, like lasagna, prove particularly difficult to eat. For difficult foods, John is given the adapted materials. With these procedures in effect, John is able to eat in the cafeteria with his kindergarten class and to eat more neatly at home.

Instructional Strategies for Eating and Mealtimes

A variety of methods have been successful in teaching mealtime skills (Table 9–2). Specifically, shaping and physical prompting procedures (including physical prompts on time delay and graduated guidance) have been shown to promote the acquisition of eating skills. Sometimes, these strategies have been combined with error correction, but positive procedures alone have been successful in other cases. Generally, graduated guidance and shaping are the recommended procedures for building basic eating and self-feeding skills during the acquisition stage.

Once students have learned the basic core eating skills (e.g., pick up spoon, scoop food), other teaching methods have been demonstrated to be more effective to promote learning in more advanced stages. For example, skills can be maintained and made more fluent with simple reinforcement (e.g., praise and confirmation: "That's right!") and error correction. The procedures used to correct errors in these later stages of learning may include teachers' or peers' verbal statements and models (observation learning; see Table 9–2).

Next we discuss special considerations in the teaching of eating finger foods, drinking from a cup or glass, and using utensils and provide examples of graduated guidance and shaping.

Eating Finger Foods

The first sign of independence in self-feeding is the predictably messy stage of eating finger foods. If the team's initial observations emphasize needs in utensil use as well as coordination of grasp, lift, and placement of finger foods in the mouth, finger food instruction should have priority. At this early stage, students use pincer grasps and hand-to-mouth movements to pick up food in combination with the sucking, gumming, chewing, and swallowing of many soft foods, such as bananas and saliva-softened toast. Eating finger foods provides essential opportunities to improve the movements necessary for later utensil use. Finger feeding also allows opportunities for continued instruction in chewing. Teachers can use meal and snack times to introduce students to a variety of textures and tastes.

For Alycin, an adapted sandwich holder does not really work; it tends to smash her sandwich and she cannot eat the end; instead Alycin eats a lot of finger foods, which someone holds out for her to grasp. Her favorites are rolled up cheese and sandwich meat.

Drinking from a Cup or Glass

Initially, students help parents or teachers hold the cup or glass and lift it to the mouth. At this early stage, and when individuals first drink from a cup independently, they use both hands. When students have the potential to master drinking from a cup without assistance, straw use also may be taught, but typically, this is not taught until after drinking from a cup is learned. For students like Alycin, who cannot acquire independence in cup drinking, drinking liquids from stabilized cups through straws is a good alternative means to achieve complete independence.

Alycin has been drinking on her own for years. She uses her Dynovox (or indicates by yes or no responses) to tell what beverage she wants and, once poured into her sports cup (covered with a straw), it is placed into a stabilized cup holder within reach on her tray or in a holder on her self-feeder tray.

Use of a straw also may be a functional skill for students in restaurants and cafeterias, where most peers or customers drink from straws. As with finger feeding, the learning process is messy.

The type of cup chosen for training may influence the initial success of students. Stainback and Healy (1982) suggest that short, squat cups that do not turn over easily and can be held without difficulty are best to begin with. With preschool-aged students, a weighted cup may be appropriate, although most cups of this style have a clear association with infants and are not age-appropriate. Similarly, whereas double-handled cups are easier to hold, they also may not be age-appropriate in design. However, plastic-handled coffee mugs (with or without the top) may be a good substitute. Durable plastic cups are obviously safer to use than are containers made of glass, brittle plastic, or paper. Spouted or nipple cups should never be used, because they stimulate abnormal sucking and do not allow students to master the correct drinking response, but sports cups with built-in straws are easily available and often used by teens and adults (Mueller, 1975).

The amount of liquid in a cup should not be excessive (to reduce spilling) but also should not be so insufficient that students need to tip their heads too much to drink, increasing the difficulty of the task. Adapted cups that are cut out on the upper side (for the nose) can allow students with physical disabilities to drink all of the fluid without tilting their heads at all (see Figure 8–6).

After students learn to drink holding handled cups or small glasses with both hands, teachers can begin to emphasize a reduction in spilling. Spilling can occur while drinking but may also happen as a cup or glass is grasped, lifted, or replaced on the table. Eventually, as drinking and other self-feeding skills improve, students should be reminded to lift glasses with only the dominant hand.

Using Utensils

Once students have the skills of grasping finger foods, moving food from a table to the mouth with their fingers, along with the basics (i.e., lip closure, chewing, and successful swallowing), teams can plan instruction on using utensils. At this time, observations should be made to assess the student's ability to pick up and eat with a spoon. Using utensils can be taught simultaneously with instruction on drinking from a cup.

Typically, utensil use is taught sequentially, from the simplest skill to the most difficult. Spoon use is the simplest of the utensil skills, followed in order of difficulty by eating with a fork, transferring spreads with a knife, spreading with a knife, cutting finger-grasped bread with a knife, and cutting meat with a fork and knife. The typical sequence is: (a) spoon, (b) fork for spearing, (c) knife for spreading, and (d) knife and fork for cutting. Children may be able to eat using utensils in a palm-down finger or fist position. Teachers may use this grasp for initial instruction and teach the more mature, palm-up position after students have made gains in their ability to eat independently.

> *At age 6, John needs to learn to cut bites of food with a fork. At a team meeting, the occupational therapist (OT) shares her concerns that John will not acquire cutting with a fork until his fine-motor abilities improve. The team still decides to teach fork use, but it is not a priority for John. Ms. Perez and an assistant teach cutting with a fork, using graduated guidance at the beginning of lunch whenever foods require cutting with a fork. The prompt levels that they use are full assistance on the hand, light assistance on the hand, assistance on the wrist, assistance at the elbow, assistance at the shoulder, and independence. Ms. Perez and the assistant fade the prompts as they notice improvement in John's independent movements. Although John does not master cutting with a fork before the end of the year, he learns to cut soft foods like cooked vegetables, fish, and cake by himself.*

FIGURE 9–8
Everyone benefits when students learn to eat independently.

Addressing Problem Behaviors at Mealtimes

A large portion of research on eating has addressed related problem behaviors, such as eating too rapidly (Favell, McGimsey, & Jones, 1980; Luiselli, 1988; Knapczyk, 1983) and eating too slowly (Luiselli, 1988). In this section, we describe teaching approaches found useful in shaping skills, promoting neatness, and reducing problem eating behavior (e.g., eating too fast or too slowly, food refusal, food selectivity, stealing others' food). These methods include: pacing prompts, changing the eating environment, and shaping appropriate behavior through various conse-

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quence approaches (i.e., contingent reinforcement and error correction, contingent reinforcement alone, and altering reinforcement schedules). More serious eating problems, such as pica (i.e., eating nonedible substances), excessive weight gain, and extreme food refusal are not addressed here. Teams facing these problems may need to broaden the team membership to include medical input and to use additional assessment tools (e.g., functional assessment to study the conditions that seem to be maintaining the behavior; medical assessments and health monitoring). (Chapter 6 addresses functional assessment; chapter 7 discusses health monitoring).

Pacing Prompts to Slow Eating Rate. Instruction aimed at pacing may be needed for some students in the fluency stage of learning: for example, students who have the ability to use utensils or to drink from cups or eat finger foods but do so too quickly or too slowly. Prompts to slow down or speed up a student's pace of eating, referred to as pacing prompts, have been an effective way to establish an appropriate rate for eating. Excessively rapid eating can be a serious problem because of social acceptability and potential health problems (e.g., vomiting, aspiration, poor digestion). A survey of persons with severe and profound retardation living in institutions (Favell et al., 1980, p. 482) defined "normal" eating rates as about eight bites per minute with the total meal consumed in 15 to 20 minutes. "Rapid" eaters, however, "consumed food at rates sometimes exceeding 20 bites per minute, and finished their entire meal within 1 to 3 minutes" (p. 482).

In one pacing prompt approach, Luiselli (1988) taught a girl with deafness and mental retardation to pause for 5 seconds between bites and thereby decrease her rate of eating. The teacher was positioned to block the left hand from leaving the student's lap and to physically guide the girl's right hand. The girl was allowed to take one bite. Then, the teacher guided the girl's hand to the table, and she was prompted to keep her hand on the table until the food had been swallowed and to wait an additional 5 seconds. After a reasonable rate of eating was achieved, the physical prompt was faded and used only after errors.

Knapczyk (1983) used another variation of pacing prompts to reduce rapid and sloppy eating in a student with cognitive and motor disabilities (i.e., moderate cerebral palsy with poor arm and hand coordination). The student used a spoon, but only ate pureed foods and did not pause between bites. Frequently, he performed the eating cycle without putting any food on his spoon, and excessive spilling occurred during every meal. During the first phase of instruction, the teacher placed one spoonful of food into an empty bowl and gave verbal instructions with manual guidance to eat the spoonful and lay down the spoon. This procedure was repeated until the student followed the request without help. The amount of food was increased gradually over 9 days, until the student was able to consume his entire meal and still pause between bites. During follow-up, pureed food was changed to solid food without any disruption of pausing between bites.

Pacing Prompts to Speed Up Eating Rate. Pacing prompts have also been used to increase the rate of eating. Luiselli (1988) increased the rate of eating in two girls with dual sensory impairments: one girl took approximately 1 hour to complete meals and the other initiated self-feeding only for hamburgers. The teacher provided pacing prompts for the slow eater after every 40-second pause, guiding the girl's hand to grasp the food and bring it to her mouth. The girl's rate of eating increased and her need for prompts decreased during the treatment phase.

Pacing prompts to promote self-initiation of eating in the second girl consisted of the following steps:

- Physical guidance to get food to within 2 inches of her mouth and a 5-second pause to allow her to place food in her mouth.
- If the student consumed the food, she received specific verbal praise and a sip of cold water (a preferred reinforcer).
- If the food was not consumed, the teacher returned the girl's hand to the table and waited 15 seconds for the next prompted trial.

Although the student's level of self-feeding was extremely variable, the treatment resulted in marked gains in food consumption.

Consequence Procedures. Several studies have applied primarily consequence methods to address utensil use and improvements in eating a variety of foods. Riordan and colleagues (Riordan, Iwata, Wohl, & Finney, 1980; Riordan, Iwata, Finney, Wohl, & Stanley,

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1984) reduced food refusal and selectivity in younger students with severe disabilities by using reinforcement alone. In the first study, the number of correct bites and foods across food groups was increased by presenting two children with bites of a more preferred food after every bite or sip of a less preferred item (Riordan et al., 1980). When some students began to hold food in their mouths, the program was adapted, and reinforcement was presented only after they swallowed. Reinforcement was faded by gradually increasing the number of bites and the variety of food items that students had to consume to earn the preferred food.

Riordan et al. (1984) employed similar procedures to decrease food refusal and increase the variety of foods eaten by four children who were "at risk" as a result of malnutrition. During the baseline, a variety of foods were presented for the students. Foods accepted during baseline were used during intervention as reinforcers for the other foods. During the teaching phase, when a student accepted a target food, the behavior was reinforced with a bite of a preferred food. One child was reinforced with toy play because she did not regularly accept any food item. All students showed improvement in the number and variety of foods accepted when reinforcement was made contingent on the acceptance of a nonpreferred food. Their improvements were maintained with an intermittent schedule of reinforcement, and parents were able to apply the same methods at home. Follow-up results indicated that all children ate more food, more varied foods, and gained weight. One student's improvement even allowed the removal of a gastrostomy tube for feeding, and another student's improvement led to development of self-feeding skills.

Altered reinforcement schedules were also used by Riordan et al. (1984) to increase a student's ability to accept and eat a range of foods. Rather than moving reinforcement to the end of the meal, intermittent reinforcement (i.e., bits of preferred foods) was used throughout the meal. Because most of us rotate across different food items during a meal, the practice of alternating bites of preferred foods (intermittent reinforcement) with bits of less preferred food is a normalized way to fade reinforcement contingencies.

The problem behaviors of *food stealing* and *scavenging*, often observed in older research done in institutions, may possibly be identified in some students in school settings. Smith, Piersel, Filbeck, and Gross (1983) used a change in the eating environment plus shaping of appropriate behavior to reduce food stealing in a young woman with severe retardation. The program started by seating the student at a table away from others and giving her frequent reinforcement with favorite foods for longer and longer periods of no stealing. Over successive treatment phases, peers were seated by the woman and reinforcement was gradually reduced. If she did steal food, the stolen food was removed. Then the young woman was moved back to her peers' table to eat, and researchers randomly chose one of three meals a day as the "training meal," when reinforcement was contingent on no stealing. When the treatment was delivered at one random meal daily, the behavior was reduced in all meals. Then, because she could sit with others and not steal or scavenge, reinforcement was faded so it was available only at the end of the meal; her behavior reduction was maintained under these conditions.

Other researchers have attempted to increase appropriate mealtime behaviors and decrease problem behaviors with potentially aversive strategies. These approaches have been based on the rationale that students allowed to steal food or eat with their hands have little reason to learn to use utensils. The mildest aversive technique used for these mealtime-related problems has been a brief nonexclusionary time-out from eating (also referred to as interruption-extinction). Nonexclusionary time-out has been effective in improving mealtime behavior in individuals with severe disabilities (Barton, Guess, Garcia, & Baer, 1970; Christian, Holloman & Lanier, 1973; O'Brien & Azrin, 1972; Song & Gandhi, 1974). For some students, a 30-second removal of the plate or tray has been an aversive consequence strong enough to eliminate food stealing, food throwing, mouth stuffing, eating with hands, and inappropriately using utensils. Note, however, that while Barton et al. (1970) found that these briefly applied punishment procedures quickly eliminated stealing, treatment guidelines may prevent the elimination of students' meals as a violation of their basic rights. Teams will need to rigorously apply a range of positive methods before even considering approaches that involve punishment.

Informal assessment revealed that John is able to chew his food, that he is able to keep his mouth closed while chewing (although he doesn't usually do so), and that he responds to verbal cues. The team decided that Ms. *Perez and the assis-*

tant should use verbal prompts and reinforcement to teach John to consistently and thoroughly chew his food with his mouth closed. Once the program was under way, they noted that he sometimes responded to verbal prompts by opening his mouth wider, thrusting his tongue, shaking his head from side to side, and laughing. To counter these "silly" behaviors, the team agreed that Ms. Perez and the assistant should use a brief interruption-extinction consequence along with the prompting program. When John opens his mouth while chewing, they remove his tray until he closes his mouth, completes chewing, and swallows. This time-out is never more than 30 seconds. Separately, Ms. Perez talks to John's peers and problem-solves how they might help reduce John's silliness. Classmates decide they will not laugh or smile when John engages in silly behaviors but will try hard to notice his neat eating (with his mouth closed). Two boys admit to having a hard time remembering to eat with their mouths closed, so they suggest sitting nearby and "working" with John on this same skill of neat eating. Several classmates who are extra-good models will sit among them. These procedures prove effective, and after 10 days of the extinction procedure, John consistently keeps his mouth closed to chew and swallow.

Special Considerations for Dressing and Grooming

Assessment and Instruction

Having some ability to participate, fully or partially, in grooming and dressing activities and the responsibility for doing so not only lightens the load on care providers but also opens numerous opportunities for choice and control in one's life. Individuals who dress and groom themselves to suit peer and community standards make better impressions on others. For these reasons, instructional goals in grooming and dressing typically receive priority ratings by families and support providers. In response to a questionnaire, parents ranked skills in the domestic domain as significantly the most important among the curricular areas (Epps & Myers, 1989).

In this last section, we talk about the teaching of dressing and grooming skills. Our discussion covers: (a) the range of skills, (b) instructional considerations, (c) materials, (d) embedded behaviors, and (e) recent research. Our focus is primarily on learners who will become actively involved or independent in their daily routines of dressing and grooming. Chapter 7 addresses issues related to dressing: positioning considerations and teaching tactics for students with motor disabilities and atypical muscle tone. These current references provide more information: Christensen, in press; Orelove and Sobsey, 1996; Shephard, Procter, and Coley, 1996; Snell and Vogtle, in press.

Range of Skills

The dressing and grooming curriculum for students with severe disabilities encompasses routines that almost everyone engages in at least daily: (a) brushing teeth, (b) combing and brushing hair, (c) washing face and hands, (d) showering or bathing, (e) using deodorant, (f) dressing, (g) undressing, (h) selecting appropriate clothing, and (i) evaluating one's appearance and making adjustments if necessary. The more difficult tasks in dressing and undressing include shoe tying and fastening and unfastening buttons, snaps, hooks, zippers, ties, and belts. Grooming routines performed less frequently include: clipping, filing, or painting fingernails; menstrual hygiene; shaving face, underarms, or legs; and applying makeup. Routines such as shaving and makeup are specific to the student's gender and personal preference. Other skills, such as bathing or showering, washing hands, brushing teeth, and menstrual care are critical for maintaining good hygiene. Finally, skills that are nonessential, such as painting fingernails (see Figure 9–4), wearing makeup, or grooming a beard, can be very important to certain individuals.

Instructional Considerations

When students with disabilities have friends of the same age and gender who are able to perform the skills they are trying to master, learning by observing them and by getting their assistance offers a viable supplement to teacher-directed trials. Supporting this practice are several areas of research. First, it appears that scheduling increased opportunities to practice a task being taught facilitates learning (Lehr, 1985), although teachers must clearly balance any need for intensive instruction on a skill with the student's learning needs in other areas and with the learning needs of classmates. Second, work by Wolery and his colleagues (Table 9–2) emphasizes the effectiveness of learning by observing others perform. Third, research indicates that spacing the learning opportunities, or trials, on a given skill across the day is more conducive to learning than is massing trials in a concentrated shorter period of time (Mulligan, Lacy, & Guess, 1982). Fourth, learning grooming tasks under natural conditions (e.g., time of day, location) is more likely to speed learning (Freagon & Rotatori, 1982) and to promote skill transfer and retention (Reese & Snell, 1991; Snell et al., 1989). Finally, making the teacher's presence and supervision less predictable to learners (i.e., the teacher comes and goes at random times during the students' performance of grooming tasks, providing teaching and reinforcement when present) has been shown to result in increased attending to tabletop tasks and better performance with children who have autism (Dunlap & Johnson, 1985). Taken together, these studies lend some support to the use of typical peers as models and informal task assistants during some natural grooming opportunities.

> *Jamal will need a lot of instruction before he can tie his shoes by himself, but his teacher is optimistic. She lets him get extra practice on tying simple knots by tying plastic grocery bags when he gathers and packages things for recycling with other eighth graders. Since they have started recycling three times a week, Jamal has learned to make the half knot. Peers also are good models: They are willing to slow down their tying and verbalize the steps while he watches.*

Dressing and Grooming Materials

When selecting materials for instruction, teachers should use real materials (e.g., clothing, toothbrushes, deodorant) as much as possible. However, the use of larger clothing for initial instruction, faded over time to appropriate clothing sizes has been demonstrated as a potent strategy (Azrin, Schaeffer, & Wesolowski, 1976; Diorio & Konarski, 1984; Reese & Snell, 1991). The use of larger buttons to introduce buttoning was also effective (Kramer & Whitehurst, 1981). Surprisingly, Kramer and Whitehurst (1981) also found it easier for children to button the top buttons that were out of view rather than beginning with lower buttons.

To promote generalization of dressing and grooming skills to new materials and settings, students must be taught using a variety of materials and settings. Teams should decide what materials and what settings are most appropriate (e.g., nonstigmatizing preferred, privacy) and most feasible (e.g., close, fi daily schedule). Sometimes in grooming instruction teachers are not able to use real materials and may supplement with artificial or simulated materials. Two such times concern teaching simple wound care and the instruction of women on menstrual hygiene. In the latter instance, instruction needs to be regular and to last longer than a single menstrual cycle. Epps et al. (1990) compared two instructional approaches both of which involved simulation: (a) changing artificially stained underwear or a pad on oneself and (b) using a doll and materials to practice these same maneuvers. Women taught using the dolls did not demonstrate generalization of their skills to themselves, but once they were given instruction on themselves, they were able to perform these same skills during their menses. When using task simulations to teach, match the simulation to the actual task as much as possible. The authors in this study agreed with this general practice. They noted that changing pads on dolls differs greatly from performing the same task on oneself. In addition, they found that when the simulated menstrual amount and stain was dissimilar from the woman's actual menses onset, generalization was worse than when the similarity was close. Their materials included examples of different colors and styles of underwear; underwear with stains in different locations; and underwear with no stains. As we mentioned earlier in this chapter, Epps and her colleagues also learned that ordinary women in the community expressed a preference for teaching initially on dolls rather than on the individual herself; thus, instructional methods need to be designed to effectively promote efficient learning and generalization for individual learners, while also being socially acceptable to those who do the teaching.

Embedded Behaviors in Dressing and Grooming Routines

Dressing and grooming routines provide numerous opportunities to develop self-determination through enrichment skills, such as making choices, communicating preferences, and interacting socially. For some, dressing and grooming are opportunities to express creativity in choosing clothing, hair styles, and other fashions. The extension skills of initiating tasks, persisting through completion, solving problems, and monitoring speed and quality are a big part of independence in the grooming and dressing domain. Extension skills can be performed on a partial or full participation basis. (Figure 9–9 illustrates how extension and enrichment skills can be embedded in the grooming task of brushing or combing hair.)

Recent Studies in Dressing and Grooming Research

Observation Learning or Modeling

Several recent studies lend support to the practice of learning by watching others perform competently or by watching others being taught. This ordinary teaching approach has been called by different names: observation learning (Shoen & Sivil, 1989; Wolery, Ault, & Doyle, 1992), passive observation (Biederman, Fairhall, Raven, & Davey, 1998), and self-modeling (Dowrick & Raeburn, 1995). Wolery et al. (1992) have demonstrated several important features of *observation learning*:

- Students are taught in small groups of 2 or 3 and focus on similar skills.
- Students are asked or prompted to watch the student who is being taught as he or she performs the skill.

FIGURE 9–9
Task Analysis for Grooming Hair

Domain: Personal Management

Interval/Form: Daily/Fixed

Routine: Grooming Hair

	Yes	No	NA	With Adaptation	Comments
1. Grooms or indicates need to groom at such times as when hair is messy, before going out, after gym (initiate)					
2. Finds and selects needed items such as comb, brush, or pick (prepare)					
3. Combs, brushes, or picks hair (core)					
4. Checks hair for neatness (monitor quality)					
5. Grooms hair within acceptable time (monitor tempo)					
6. If a problem arises, such as a tangle or can't find brush, will take action to remove problem (problem solve)					
7. Puts comb or brush away, cleans up loose hairs if necessary (terminate)					
8. Expresses or communicates about any aspect of hair grooming, such as need for haircut or style (communication)					
9. Makes choices concerning hair grooming, such as choosing between comb or brush, type of barrette, hairstyle (choice)					
10. Grooms hair according to social standards, in acceptable settings, responds appropriately to comments of others (social behavior)					

Note: Adapted from "Delineating functional competencies: A component model" by F. Brown, I. M. Evans, K. Weed, and V. Owen, 1987, *Journal of the Association for Persons with Severe Handicaps.* Adapted with permission.

- Students in the group take turns performing the target skill while others observe.
- One student can be taught half a task while others watch; instruction then moves to another in the group for the other half. Students can learn some or all of the task steps that they have only observed.

Passive modeling, also used with chained tasks, involves instructors as models who demonstrate the whole dressing or handwashing task. Observing students are then given turns to perform but receive little or no verbal or gestural prompts or even social praise. Passive modeling was more effective than both interactive modeling (i.e., hand-over-hand instruction with ongoing verbal prompts and praise) and less rigorous verbal prompting (Biederman et al., 1998).

Video self-modeling is a little different from the other observation approaches in that students review videos of their mastery performances, edited to omit errors and produce recording of "advanced" skills. Dowrick and Raeburn (1995) made videos of students ranging in age from 5 to 13 performing skills (with the needed supports) that were priorities for them: dressing upper garments, dressing outer clothes, and other non–self-care skills. Students all had motoric disabilities (e.g., cerebral palsy, spina bidifa). Camera shots showed closeups of key component behaviors. The edited tape showed students as much more competent performers than they actually were because the tapes omitted errors and views of therapists providing assistance. To test the effects of self-modeling, some priority tasks were randomly chosen for each student for the video treatment, while no videos were made of other tasks. Over a 2-week period students could watch their videotape without discussion and all did. Consistently children were judged to have made significantly more progress on tasks involving self-modeling, and those gains did not lapse but continued over time. These findings on the positive effects of video replay suggest the potential that self-observation may have as a teaching strategy for dressing, alone or in combination with other methods.

Simultaneous Prompting

Simultaneous prompting involves intermittent probe trials and teaching trials. During *probe trials*, students are asked to perform the entire task without assistance, errors are ignored, and these steps completed for the student without comment. *Training trials* involve cueing the student to look at task materials, giving a task request, and prompting and praising the student on each step of the task, with an activity choice reinforcer at the end. Sewell et al. (1998) used simultaneous prompting during activity-based routines to teach two preschoolers with developmental delays to take off shoes, socks, and pants and to put on shirts, shoes, and jacket. Skills were taught in the context of routine activities that required the skill (e.g., taking off socks before dress-up play, sensory play, ball-bin play, and rest time; putting shirt on for dress-up play, water play, and "messy" art activities). The teacher assessed student performance in a probe trial each morning and completed one-on-one instruction throughout various times of the day. The teacher first provided an attentional cue (e.g., "Look, [student's name]" or "Look at [article of clothing]") and then gave full physical assistance and verbal directions and explanations throughout the task. The student received continuous verbal reinforcement as long as she allowed physical assistance. The students also got to perform a preferred task after the dressing skill was performed. The teacher used a variety of clothing to encourage generalization.

While it may seem strange that prompts are not faded during training trials, it is the contrast between training trials (all prompted) and probe trials (no prompts) that gives (a) students an opportunity to perform without assistance and (b) teachers an opportunity to view student learning. Probe trials must be given daily. When learning occurs, training trials end and team members aim for skill maintenance.

Other Teaching Techniques

Another method used with grooming skills is forward chaining, which involves teaching in a forward direction through task steps and "building" a student's performance as each additional step is learned (Figure 9–10). Forward chaining has been used to teach menstrual care (Epps, Stern, & Horner, 1990; Richman, Reiss, Bauman, & Bailey, 1984). Epps et al. faded prompts by requiring students to return to the beginning of the task after errors, until they performed without a prompt. Thus, whenever students made an error, they practiced the appropriate response with the prompt until performing correctly. Then, the student was instructed to begin the task again and no prompt was given. This procedure was

Grooming Application to John

John's team views dressing and grooming as priority areas. Because he is 6 years old and has many other needs and motor limitations, most objectives in the dressing and grooming areas reflected partial participation. The skills his team selects for instruction are those John uses most often: washing hands, washing face (needed after all meals), and unfastening and fastening clothing for toileting.

The team examined John's schedule and identified natural opportunities for teaching these skills. Washing hands and manipulating fasteners are taught whenever John goes to the bathroom. Washing his face is taught after lunch. At school, Ms. Perez or her assistant teach all skills in the boy's bathroom. At home, John's mother teaches in the family bathroom. Later in the school year, when a male teaching assistant, Mr. McLean, is hired to work with the primary grades, the team decides to ask him to teach John when other boys are present in the bathroom. John has some experience with washing his face and hands, and he is able to complete some steps with minimal guidance. These skills are task-analyzed and taught to John, using a system of least prompts.

Manipulating fasteners is a more difficult skill for John because of the fine-motor requirements. The OT helps team members design a simple version of graduated guidance to teach the skills, so John will get the feel of the motions required. Prompting begins with full physical assistance but changes based on the pressure cues of John's improved performance of the skill steps; as he initiates successfully, guidance is reduced to shadowing.

At the end of the year, John sometimes demonstrates the ability to wash his face and hands independently, but he also requires verbal reminders at times. The team's plan is to fade verbal reminders by having Mr. McLean stand just outside the bathroom door to observe and praise successful efforts. He notes that John sometimes throws away a paper towel without washing his hands. Although John is not at 100% accuracy, he is correctly imitating the behaviors of his typical peers, who do not always wash their hands either. By the end of the school year, John needs only reminders to check how his face looks after washing but still requires some physical assistance with fasteners.

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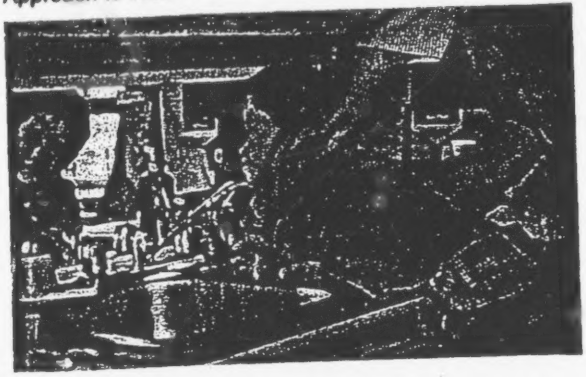
repeated until the student could perform the entire task without any errors.

Richman et al. (1984) used an alternate approach to teach feminine hygiene. On the first trial, the women were prompted through the entire task. Then they were allowed to perform independently on the task until their first error. Errors were followed by having the women practice the missed step with verbal assistance until they could complete the step independently. Next, they were asked to begin the task again from the beginning. Five women mastered three variations of the feminine hygiene task when confronted with (a) a stain on their underwear, (b) a stain on their pad, or (c) a stain on both pad and underwear. The women were able to generalize the skills to their own menses.

FIGURE 9–10
Physical Therapist Uses a Forward Chaining Total Task Approach to Teach Natalie to Wash Her Hands



Summary

The self-care domain consists of basic tasks for maintaining personal hygiene: toileting, eating, dressing, and grooming. For students who do not master self-care skills in the early childhood years, these skills continue to be a priority area for instruction for individuals and families. Justly or not, independence in self-care continues to make more postschool options available to individuals with disabilities. Independence and participation in one's own self-care contributes to personal and emotional well-being and self-determination. Despite the importance of self-care skills, current research in the area is lacking, particularly in teaching methods that involve positive strategies and inclusive environments.

Assessment, program development and implementation, and evaluation require collaboration, consideration of social validity, age- and culture-appropriate practices, involvement of peers, and consideration of partial participation. In addition to the student, the family, and the teachers involved with the student, occupational therapists, speech and language therapists, and physical therapists have expertise related to the self-care domain. Social validity requires consideration of family and support providers' perceptions, peer standards, accepted practice in the settings where instruction is implemented, and community standards in planning assessment and instructional procedures. Strategies and materials should be appropriate to the chronological age of the student and the practices and values of family members related to heritage, religion, and custom. Peers may play a critical role in setting standards for performance, providing models and reinforcement, being learning coaches, and supporting students' growth in independence in self-care domains. Finally, teachers should not eliminate students from instruction because the student may not become fully independent in self-care skills. Rather the judicial and cautious use of partial participation should be considered and continually evaluated.

Meaningful assessment is used to determine skills the student performs and what skills may require instruction. Assessment should address the environments where students use self-care skills. Informal and formal interviews are useful, as well as careful observation in environments the students currently use and will use in the future and observation of the student performing self-care tasks targeted for instruction.

Before instruction, the educational team must decide on the appropriate settings and schedule for instruction. Especially in the self-care areas of toileting, eating, and, to some extent, grooming, privacy is a critical consideration. The student's need for meaningful interactions with peers and need for privacy in instruction in self-care skills must be carefully balanced.

Teachers should select the simplest effective strategy that meets the individual student's needs for instruction. Effective strategies in the self-care domain include: observational learning, shaping, time delay, graduated guidance, and the system of least prompts during the acquisition stage. Fluency may be improved with a focus on motivation for increasing time and accuracy of performance. Sometimes motivation may be enhanced by providing choice or peer supports. Other strategies for fluency include extra progress on problem steps and pacing prompts. Careful and systematic fading of instructional procedures and reinforcement should be planned for the student's maintenance phase. Maintenance of skills should be monitored until the team is convinced that the student will continue to perform needed self-care routines independently. Generalization of performance across settings and materials should be evaluated, facilitated, or instructed as necessary. Reinforcement for tasks should also be individualized to student characteristics.

Instruction in self-care provides many natural opportunities to incorporate related social, communication, and mobility instruction. Additionally, educational teams should plan for instruction in the extended skills related to initiation, quality, tempo, problem-solving and termination. For some students, instruction in related skills may be the purpose of instruction during self-care activities and routines.

Special considerations in toileting include examination of students' physiological readiness and assessment of natural toileting patterns. Instruction in toileting may be successful using traditional methods or improved traditional methods, including reinforcement for dry pants, consequences for accidents, regulating toileting times, or moisture-signaling devices. Some students may require rapid training programs.

Eating and mealtime instruction also requires the assessment of physiological readiness. Additionally, consideration of appropriate foods and materials for instruction is required. Eating finger foods is typically the first self-feeding skill to develop, followed by drinking from a cup and using utensils. Much of the eating research has focused on problem behaviors such as food over-selectivity and rapid eating. Pacing prompts and consequence procedures have been successfully used to reduce problem behaviors.

Individual preference is a critical consideration in many grooming and dressing skills (e.g., whether or not to shave, choice of style in clothing). Careful communication with student, family, and peers is necessary to determine appropriate choices in this area. There are fewer natural opportunities for dressing and grooming during school than for the other self-care areas of eating and toileting. The educational team must evaluate the priority of instruction, the need to create artificial times and places, and the use of groups for instruction. As with eating, special materials (e.g. larger sizes, Velcro fasteners) may be needed for teaching dressing to some individuals. Recent research in this area has shown that various forms of observational learning (i.e., modeling, passive modeling, and video self-modeling), as well as simultaneous prompting, are successful in teaching grooming and dressing.

Suggested Activities

1. Are your instructional programs in self-care consistent with current best practices? Find out by completing the following program evaluation and improvement checklist for each self-care objective for a particular student you know well.

Skill Objective: __________________________

The Skill or Routine

- Is it functional for this student (i.e., needed now and in the future, essential to health or social acceptability, valued by family and peers)? YES NO
- Is it appropriate for the student's age? YES NO
- Do the conditions and criteria reflect the functional needs of the student? YES NO

Teaching Methods

- Does instruction include related skills (i.e., extension beyond the core task steps) and opportunities for enriching the task with student communication, choice, and socialization? YES NO
- Do methods emphasize natural cues and task materials? YES NO
- Do methods include a range of routine times and locations for teaching? YES NO
- Can natural reinforcers or incentives be used to promote motivation? YES NO
- Do methods reflect those that have worked with this student in the past? YES NO
- Do methods reflect socially and culturally valid approaches? YES NO
- If adaptations are used (e.g., modified materials, partial participation) do they reflect the rule: as little as necessary? YES NO
- Are teaching methods team-generated? YES NO

Evaluation

- Were starting points for teaching determined from baseline assessments? YES NO
- Has the team developed simple but effective methods to monitor student performance and learning across settings? YES NO
- Are these evaluation data used to make improvements in the program? YES NO

2. Are you using partial participation with students to complete self-care routines? If so, answer the following questions to check the appropriateness of your application.

- Did planning include input from therapists, the student, and family members? YES NO
- If adaptations are used to simplify the cognitive aspects of a task (e.g., photos to prompt morning grooming sequence), does the student know how to use the adaptations or will instruction address this learning? YES NO
- Does the student have some control with or over the task or routine? YES NO
- Will you monitor the student's performance regularly so participation can be increased or made more natural if progress seems to indicate these changes are suitable? YES NO
- Is the form of partial participation used suited to the student's age and personal preferences (e.g., adapted clothing, physical assistance)? YES NO
- If protheses or adaptive equipment are used, are they durable and suited for use in all or most environments where the skill is needed (e.g., a battery-operated toothbrush, adapted eating utensils)? YES NO
- Does partial participation appear to improve the student's enjoyment of the task, inclusion with peers, and the ease with which the student completes the task? YES NO

- Does partial participation result in good outcomes in this routine (e.g., clean teeth)? YES NO
- Is the partial participation approach practical for the student and for care providers or peers who might assist (e.g., not too slow, effective, flexible in lots of situations, does not require excessive materials)? YES NO

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Unit 4 Activity Sheets

Personal Care

Activity Sheet #6

Providing Food and Drink Activity Checklist

Each person should try to accomplish the following tasks. As a task is completed, check a box.

Prior to beginning the following tasks, each participant must first do the following:

1. Roll several pieces of paper into two tubes and tape a tube over each elbow to limit the use of your arms.

2. Tape each thumb and index finger together.

3. Tape your other three fingers together.

Tasks	**Participant Checkoff**		
	Participant # 1	2	3
1. Eat peas with a knife.	☐	☐	☐
2. Eat jello cubes with a knife.	☐	☐	☐
3. Eat water with the spoon.	☐	☐	☐
4. Feed a partner peas from a spoon.	☐	☐	☐
5. Put a blindfold on your partner and feed him or her peas with a spoon.	☐	☐	☐
6. Give a partner a drink from a cup.	☐	☐	☐

Activity Sheet #7

Dressing Activity Checklist

Each person should try to accomplish the following tasks. As a task is completed, check a box.

Prior to beginning the following tasks, each participant must first do the following:

1. Roll several pieces of paper into two tubes and tape a tube over each elbow to limit the use of your arms.

2. Tape each thumb and index finger together.

3. Tape your other three fingers together.

Tasks	**Participant Checkoff** Participant # 1	2	3
Put on and button a button front shirt	☐	☐	☐
Put on a pair of pants	☐	☐	☐
Put on a sock and a shoe (tie the laces)	☐	☐	☐
Put on a pull over shirt	☐	☐	☐
Put tooth paste on your finger and brush your teeth	☐	☐	☐
If you have a personal brush or makeup, brush your hair or apply makeup (e.g., lip stick, powder, eye liner).	☐	☐	☐

Unit 4 Forms

Personal Care

- Knowledge Review
- Cooperating Teacher Practicum Summary
- Evaluation Form

Name: ______________________

Date: ______________________

Site: ______________________

Instructor: ______________________

Directions: Read each question and circle the letter corresponding to the one item that you think is the best answer.

31. Which of the following principles are important to consider when teaching self-care skills to students with severe disabilities ?
    a) Use partial participation carefully
    b) Involve peers whenever possible
    c) Teach self-care skills at home. School is not an appropriate location for teaching eating or toileting skills.
    d) Use procedures that are socially valid, age- and culture appropriate
    e) a, b and d only
    f) a, c and d only

32. Peers can be involved in self-care instruction in the following ways:
    a) task companion
    b) teacher
    c) partner
    d) model
    e) a and b only
    f) a, c, and d only

33. Continuous evaluation of partial participation is critical to determine when assistance can be faded or eliminated, to ensure that modifications result in:
    a. satisfactory outcomes for the student
    b. empowerment, rather than humiliation of the student
    c. the task being completed quickly
    d. a and b

34. Which of the following is the least effective strategy for teaching self-care skills:
    a. asking the student to following written directions
    b. using forward or backward chaining
    c. providing a model for the student to copy
    d. using graduated guidance and decreases in assistance

35. Independent toileting includes:
    a. being aware of the need to go to the bathroom
    b. getting to and from the bathroom independently
    c. undressing and dressing skills associated with toileting
    d. clean up activities– wiping self, flushing toilet and washing hands
    e. all of the above
    f. a and b only

36. The following statements is true:
    a. students who do not self-initiate the toileting routine are considered independent at toileting
    b. students must wear training pants/underwear during the entire day while being toilet trained
    c. keeping a fairly stable eating and drinking pattern paired with reinforcement for correct toileting behavior helps students achieve toileting regulation
    d. toilet training programs are only effective if training first begins at home

37. Which of the following statements is true about "rapid" methods of toilet training:
    a. rapid methods always work
    b. some rapid approaches include fluid increases that may be dangerous to the student
    c. rapid methods always involve punishing the student for toileting accidents
    d. rapid methods are usually done at school

38. Which of the following statements about eating instruction is true:
    a. students with severe disabilities should not be taught to self-feed
    b. when eating, the student's head should be stable, in midline, and with the chin and jaw nearly parallel to the floor
    c. drinking from a cup is always taught before drinking from a straw
    d. students with severe disabilities should always be fed liquefied foods to reduce the risk of choking

39. Recent research on teaching students with disabilities dressing and grooming skills has shown:
   a. the effectiveness of learning by observing others perform the skill
   b. spacing the learning trials across the day is more effective than teaching with massed trials in a concentrated, shorter period of time
   c. learning groom skills in natural conditions speeds learning
   d. increased opportunities for practice facilitates learning
   e. all of the above
   f. none of the above

40. Dressing and grooming routines provide numerous opportunities to develop other important skills such as:
   a. choice making
   b. communicating preferences
   c. academic skills
   d. expressions of creativity through selection of clothes, hair styles or other fashions
   e. initiating tasks, solving problems, staying with a task to completion
   f. all of the above
   g. a, b, d, and e only

Cooperating Teacher Practicum Summary

Unit 4: Personal Care

I. Brief Summary of the Unit

This unit provides the participants with knowledge about personal care issues for students with severe disabilities.

The key concepts addressed in Unit 4 include:

- Basic guidelines for providing food and drink to students.
- Basic guidelines for assisting student with bowl and bladder needs.
- Basic guidelines for assisting students with dressing and hygiene needs.
- General principles for developing personal care instruction

II. Practicum Requirements

1. With the help of the cooperating teacher, the paraeducator will select a student with a severe disability who has needs in the area of personal care (eating, drinking, toileting, dressing or hygiene).

   The paraeducator will answer the following questions about the selected student:

   a. Describe the student in terms of the support needed in the area of eating and drinking.

   b. Describe the student in terms of the support needed in the area of toileting.

   c. Describe the student in terms of the support needed in the areas of dressing or hygiene.

2. The paraeducator will meet with the cooperating teacher to complete the following information sheet about the student's learning needs in the area of eating and drinking.

Information Sheet

Providing Food and Drink to My Student (check those that Apply)	My Issues/Questions
The Student I Work With is Learning:	
Basic Eating Skills:	
Sucking ☐	
Swallowing ☐	
Chewing ☐	
Lip Closure ☐	
Finger Feeding ☐	
Eating a Variety of Textures ☐	
Utensil Use	
Eating from a spoon (when fed) ☐	
Using a spoon (scoop, spoon to mouth, return spoon to plate) ☐	
Using a Fork ☐	
Using a Knife ☐	
Drinking Skills	
Sucking through a straw ☐	
Drinking from a cup (when fed) ☐	
Using a cup (pick up, drink, put down) ☐	

3. After reviewing the students learning needs, the paraeducator should identify a concern that he or she has concerning providing food and drink to the student. With the cooperating teacher the paraeducator should identify possible resources and people the paraeducator may need to help meet the student's needs.

My Main Concern is: ____

____

____

____

What Resources Can Help Me To Address My Concerns:

Access To Knowledge Or Information ☐

Hands On Training ☐

A Person To Help Me When I Need It ☐

My Team To Make A Plan To Address The Concern ☐

Other: ____

Who Can Help?

My Supervisor ☐

A Special Educator ☐

Occupational or Physical Therapist ☐

The Student Parents ☐

My Classroom Teacher ☐

My Team ☐

Were you able to address your concern utilizing the resources or persons identified with the cooperating teacher? If so, how did it work out? If not, why not?

4. The paraeducator will meet with the cooperating teacher to discuss the students needs for privacy when dressing/undressing at school and to select a time of day when privacy might be an issue (e.g., using the public bath room, needing to be changed after voiding, changing for gym class) for the student.

Describe:

Observe the student on 3 occasions during the selected time. Was privacy an issue? Why or why not.

If privacy was an issue during the observed time, meet with the cooperating teacher and develop a plan to improve the student's privacy during this time period.

The plan is:

Implement the plan for an additional three days (or support another person to implement the plan if you are not working with the student). Observe during those three days (if you are not implementing the plan yourself).

How did the plan work?

Was the student's privacy improved?

Was the plan workable for the adult that was supporting the student?

Note to the Cooperating Teacher: It may be helpful for you to review the required readings for this unit. The readings are available in the paraeducator's Participant Manual.

Unit 4 Evaluation Form
Personal Care

Participant name (optional): ____________________ Date: ________________

Directions: Please check the box next to the statement that best reflects your opinion regarding the following questions.

1. How **important** were the objectives for this unit?
   - ☐ very important
   - ☐ important
   - ☐ somewhat important
   - ☐ not important

2. How **relevant** were the required readings for this unit?
   - ☐ very relevant
   - ☐ relevant
   - ☐ somewhat relevant
   - ☐ not relevant

3. How **understandable** were the required readings for this unit?
   - ☐ very understandable
   - ☐ understandable
   - ☐ somewhat understandable
   - ☐ not understandable

4. How **useful** were the activities for this unit?
   - ☐ very useful
   - ☐ useful
   - ☐ somewhat useful
   - ☐ not useful

5. How **understandable** were the activities for this unit?
   - ☐ very understandable
   - ☐ understandable
   - ☐ somewhat understandable
   - ☐ not understandable

6. How would you rate the **quality** of the materials for this unit?
   - ☐ very high quality
   - ☐ high quality
   - ☐ fair quality
   - ☐ poor quality

7. How **relevant** were the practicum requirements for this unit?
   - ☐ very relevant
   - ☐ relevant
   - ☐ somewhat relevant
   - ☐ not relevant

8. How **understandable** were the practicum requirements for this unit?
   - ☐ very understandable
   - ☐ understandable
   - ☐ somewhat understandable
   - ☐ not understandable

9. What was the most important or useful thing that you learned from this unit?

10. Please use the rest of this page to make suggestions for improving the objectives, required readings, activities, and practicum requirements for this unit.

Practicum Requirement
Unit 1: Principles and Assumptions

☐ 1. a) The paraeducator will select a student with a severe disability with the help of the cooperating teacher and will research the student's disability. This may be done on the internet, through library research or by interviewing someone that has information about the specific disability (e.g. a representative of the National Autism Society, a special educator or the student's parents).

What is the disability?

How does the disability affect communication development?

How does the disability affect physical development?

How does the disability affect vision, hearing, touch, smell or taste?

b) The paraeducator will answer the following questions about the disability:

A. Are potential causes of the disability (e.g., genetic, related to brain injury, associated with the mother's illness during pregnancy) known? If so what are they?

B. List at least two implications for the student's educational program.

C. List at least two implications for the student's life beyond school.

☐ 2. The paraeducator will meet with the cooperating teacher to select four assumptions from the readings and will discuss each assumption with the cooperating teacher so that the paraeducator can list below at least one example of how each assumption is evident within the student's educational program.

Assumption 1:

Assumption 2:

Assumption 3:

Assumption 4:

☐ 3. The paraeducator will meet with the cooperating teacher to review and identify ten best practices that are apparent when reviewing the student's educational program. The ten best practices identified should be listed below.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Practicum requirements have been completed:

Student: ______________________

Cooperating Teacher: ______________________
(signature)

Date completed: ______________________

Practicum Requirement
Unit 2: Augmentative and Alternative Communication

Supporting Students with Severe Disabilities: A Paraeducator Curriculum

☐ 1. With the help of the cooperating teacher, special educator or speech - language pathologist, the paraeducator will select a student with a severe disability who also needs to augment her communication or to use an alternative mode of communication.

The paraeducator will answer the following questions about the selected student:

a. What is the student's primary mode of communication?

b. Does the student use other modes of communication? What are they?

c. Does the student communicate symbolically? Give an example.

☐ 2. The paraeducator will meet with the cooperating teacher, special educator or speech - language pathologist to discuss the student's current communication system. Following the discussion, the paraeducator will complete the following matrix.

List each major communicative function (e.g., accepts, rejects, asks questions, names items) used by the student. For each function list the various modes the student uses to communicate the function (e.g., vocal, gestural, tactual) and sample forms (e.g., says "I want", points to) that the student uses within each listed mode.

Communicative Functions	Various Modes Used by the Student	Sample Forms for Each Mode Listed

☐ 3. The paraeducator will meet with the cooperating teacher, special educator or speech language pathologist and review the "How Can We Help" activity sheet completed during class. (Note: If the activity sheet was completed for a different student during class, the paraeducator will have to complete a second sheet for the student selected for this practicum prior to meeting with the cooperating teacher). Each portion of the worksheet should be reviewed and revised as needed. When the worksheet is finalized, the paraeducator and the cooperating teacher, special educator or speech - language pathologist should select one idea from the worksheet that the paraeducator will implement with the student for

for five days. At the end of the five day period, the cooperating teacher, special educator or speech - language pathologist and the paraeducator should again meet and discuss how the ideas worked out. Following the discussion the paraeducator should answer the following questions:

a. What was the idea you tried?

b. Were you able to implement the idea? How hard was it?

c. How would you rate the idea in terms of how helpful it was to the student (circle one)?

1 = not helpful 2 = neutral 3 = helpful

Why do you feel this way?

d. Does the team think it is a good idea continue to implementing this idea with the student? Why or Why not?

Practicum requirements have been completed:

Student: ______________________

Cooperating Teacher: ______________________

(signature)

Date completed: ______________________

Practicum Requirement
Unit 3: Health and Safety

☐ 1. With the help of the cooperating teacher, special educator or related services provider (e.g., OT, PT) the paraeducator will select a student with a severe disability who uses a mobility device (e.g., a wheelchair) and needs assistance with mobility, movement, positioning and handling and transferring to and from the mobility device.

The paraeducator will answer the following questions about the selected student:

a. Describe the student in terms of his or her needs for mobility, positioning and handling and transfers.

b. Does the student have health or safety issues? Describe them.

c. Does the student take medications? What are the potential side effects?

☐ 2. The paraeducator will complete the following worksheet:

Handling/Positioning Needs for My Student (check those that Apply)	**My Issues/Questions**
Handling Students with Orthopedic Disabilities Normalizing Tone High tone (spasticity or hypertonia) ☐ Low tone (hypotonia or floppiness) ☐ Facilitating Normal Postures and Movement Upright positions and normal posture ☐ Movements that maintain balance ☐ Locomotion ☐ Arm and hand movements ☐ Oral movements for eating/speech ☐	
Positioning Students with Orthopedic Disabilities Positioning in adapted chairs ☐ Alternative positions (sidelying, prone) ☐ Using braces, splints and casts ☐	
Lifting, Carrying and Transfers Supported transfers ☐ lifting and carrying ☐	

My Priority Issue or Question: ____________________________________

____

____

____

____

____

What Resources Can Help Me To Address This Issue or Question:

Access To Knowledge Or Information ☐

Hands On Training ☐

A Person To Help Me When I Need It ☐

My Team To Make A Plan To Address The Issue So I Know I Am Doing What I Am Supposed To Do ☐

Other: ____

Who Can Help?

My Supervisor ☐

A Special Educator ☐

Occupational or Physical Therapist ☐

The Student Parents ☐

My Classroom Teacher ☐

My Team ☐

Other: ____

The paraeducator will meet with the cooperating teacher, special educator or related services provider (e.g., OT, PT) to discuss the questions or concerns generated by the paraeducator in class during Activity #4 (Health and Safety Activity) and the positioning and handling worksheet on the previous pages. Each portion of each worksheet should be reviewed and revised as needed. When the worksheets are finalized, the paraeducator and the cooperating teacher should select one area (e.g., one health issue such as seizures or choking or one positioning issue such as normalizing tone or assisting with movement) to focus on for the following practicum assignment. The area selected should have relevance to the student and be one that the paraeducator had questions or concerns about.

☐ 3. The paraeducator should answer the following questions. In order to answer the questions the paraeducator may have to do additional interviews with school personnel or do periodic classroom observations.

a. What was the area you selected? Why did you select this area?

b. Does the student have a plan for addressing this area developed by the team? If so, briefly summarize the plan.

Practicum requirements have been completed:

Student: ______________________

Cooperating Teacher: ______________________
(signature)

Date completed: ______________________

Practicum Requirement
Unit 4: Personal Care

Supporting Students with Severe Disabilities: A Paraeducator Curriculum

☐ 1. With the help of the cooperating teacher, the paraeducator will select a student with a severe disability who has needs in the area of personal care (eating, drinking, toileting, dressing or hygiene).

The paraeducator will answer the following questions about the selected student:

a. Describe the student in terms of the support needed in the area of eating and drinking.

b. Describe the student in terms of the support needed in the area of toileting.

c. Describe the student in terms of the support needed in the areas of dressing or hygiene.

☐ 2. The paraeducator will meet with the cooperating teacher to complete the following information sheet about the student's learning needs in the area of eating and drinking.

Information Sheet

Providing Food and Drink to My Student (check those that Apply)	**My Issues/Questions**
The Student I Work With is Learning:	
Basic Eating Skills:	
Sucking ☐	
Swallowing ☐	
Chewing ☐	
Lip Closure ☐	
Finger Feeding ☐	
Eating a Variety of Textures ☐	
Utensil Use	
Eating from a spoon (when fed) ☐	
Using a spoon (scoop, spoon to mouth, return spoon to plate) ☐	
Using a Fork ☐	
Using a Knife ☐	
Drinking Skills	
Sucking through a straw ☐	
Drinking from a cup (when fed) ☐	
Using a cup (pick up, drink, put down) ☐	

☐ 3. After reviewing the students learning needs, the paraeducator should identify a concern that he or she has concerning providing food and drink to the student. With the cooperating teacher the paraeducator should identify possible resources and people the paraeducator may need to help meet the student's needs.

My Main Concern is: ______________________________

____

____

____

What Resources Can Help Me To Address My Concerns:

Access To Knowledge Or Information ☐

Hands On Training ☐

A Person To Help Me When I Need It ☐

My Team To Make A Plan To Address The Concern ☐

Other: ______________________________

Who Can Help?

My Supervisor ☐

A Special Educator ☐

Occupational or Physical Therapist ☐

The Student Parents ☐

My Classroom Teacher ☐

My Team ☐

Were you able to address your concern utilizing the resources or persons identified with the cooperating teacher? If so, how did it work out? If not, why not?

☐ 4. The paraeducator will meet with the cooperating teacher to discuss the students needs for privacy when dressing/undressing at school and to select a time of day when privacy might be an issue (e.g., using the public bath room, needing to be changed after voiding, changing for gym class) for the student.

Describe:

Observe the student on 3 occasions during the selected time. Was privacy an issue? Why or why not.

Practicum requirements have been completed:

Student: ________________________

Cooperating Teacher: ________________________ *(signature)*

Date completed: ________________________

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